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CURRICULUM IN FOOD HANDLING AND DISTRIBUTION; A GUIDE FOR EXPERIMENTATION IN HIGH SCHOOL AND POST HIGH SCHOOL VOCATIONAL TRAINING.

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The project developed an experimental curriculum guide for training persons at the high school and post-high school levels in food handling and distribution. Data were gathered through interviews with over 200 food industries in Connecticut. Courses and curriculums were obtained from six secondary schools and seven post-secondary schools. Some of the findings were: (1) Over 80 percent of the managers had at least a high school education and over 88 percent were employed part-time while in high school, (2) Over 97 percent of the personnel voiced satisfaction with their work, and about 60 percent saw advancement potential for themselves, (3) The major factors of job dissatisfaction were long hours, lack of qualified help, and customer-coworker-employer aggravations. The proposed 2-year secondary curriculum would include (1) about 75 percent general education, (2) required part-time experience, (3) learning experiences in human relations, (4) a broad knowledge of food products, (5) distribution or selling emphasizing mathematics, merchandising, and marketing. The post-secondary education curriculum should include 15 semester hours of general education, 6-12 hours in food marketing, 3-9 hours in product knowledge, 3-6 hours in human relations, and occupational experience before or during the course. Occupational references and course outlines are included. (MM)

C. 1

Curriculum in Food Handling and Distribution

A Guide for
Experimentation in High School and Post High School Vocational Training

MAY, 1967

Connecticut State Department of Education
Division of Vocational Education
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CURRICULUM IN FOOD HANDLING AND DISTRIBUTION

A Guide for Experimentation in High School and Post High School Vocational Training

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FOREWORD

Americans enjoy the most abundant and varied food supply at the lowest relative cost of any people in the world. This high standard of living has been made possible by the work of Land-Grant colleges and universities, vocational programs and other educational efforts.

A glance at the modern food store tells us that a wealth of planning, ingenuity, and skill is necessary to keep today's many food products flowing smoothly into consumer hands. However, little emphasis has been given to education aimed at more effective and efficient distribution of food.

Today, there is a shortage of well-trained people in the food handling and distribution industries. While automation and prepackaged convenience foods have replaced some traditional skills, new and more demanding positions grow and grow. The industry especially will continue to face an acute shortage of managerial talent--people to fill positions as store managers, supervisors and other administrative jobs.

These people must be well-trained in order to cope with the many problems encountered in food handling and distribution. No longer is on-the-job training of noncareer-oriented high school graduates deemed adequate to carry out these responsibilities effectively.

The food industry is finding that vocational training at high school or post-high school levels is of value to youths entering their employ. It is also advantageous in youths' search for higher starting wages, more attractive positions, and their understanding of the jobs they seek.

Stability and security are the hallmarks of the food industry. Its opportunities for advancement and growth potential are equal or even superior to many other occupations. Numerous satisfying, well-paid jobs exist at all levels, and the opportunity is great for frequent advancement of well-trained individuals.

Young men and women with an interest in this field should begin to receive training at the high school level and then carry on continually with each new challenge. School and college faculties must meet this obligation with new and updated teacher programs oriented to needs. Improved career opportunities can be developed in this field through coordinated efforts by educational institutions, government agencies, and commercial organizations.

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TABLE OF CONTENTS

Page

Acknowledgement ii

Foreword iii

Abstract v

Implications and Recommendations vii

Chapter I: Introduction 1
  Objectives 4

Chapter II: Determining Educational Needs and Employment Opportunities for Food Store Personnel in Connecticut 6
  Summary of Findings 27
  Implications and Recommendations 29

Chapter III: Parameters for Vocational Training in Food Handling and Distribution 32
  Teacher Requirements 34
  School Facilities 36
  Student Selection 42
  Interrelationships of Programs 44
  Occupational Experience 45

Chapter IV: Interpersonal Relations and Communications in Food Handling and Distribution 49

Chapter V: Occupational Reference 62
  Unit Operations 63
  Training Aids 67
  Books 74
  Government and University Bulletins 79
  Commercial Bulletins 82
  Trade Associations and Foundations 85
  A Partial List of Contacts in the Food Industries-Food Handling and Distribution 87

Appendix 90
  Course Outlines 92
  Appendix Tables 136
  Appendix Figures 139
  School Programs and Courses 148

ABSTRACT

CURRICULUM IN FOOD HANDLING AND DISTRIBUTION,
A Guide for Experimentation in High School and
Post High School Vocational Training

Prepared By: Dr. Philip G. Stiles, Dr. W. Howard Martin and Mr. Richard Lalley, University of Connecticut, Storrs, Connecticut.

Contract Agency: Bureau of Vocational Services, Connecticut State Department of Education in cooperation with the Bureau of Adult and Vocational Education, U. S. Office of Education.

This study centers on education of employees in one phase of the food industry. It presents data on employment opportunities and educational requirements in food handling and distribution for Connecticut. These data are related to current programs of education in vocational secondary, and post secondary schools. This study presents a guide for developing curriculum in the area of food handling and distribution.

A survey of food store employees, managers and food distribution teachers was conducted to determine the level and type of training needed for vocational programs in food handling and distribution. Findings from the data gathered were as follows:

1. The years of formal schooling for food store personnel responding to the interview guide sheet averaged 11.5 years. Over 80 percent of the managers and owner-managers had the benefit of at least a high school education.

2. Over 88 percent of the present managers and owner-managers were employed part-time while in high school; the majority having worked in food stores as clerks. Approximately 27 percent of the present managers and owner-managers were employed part-time while attending post high school educational institutions.

3. The majority of food store managers who continued their education beyond high school followed a business and marketing curriculum.

4. Of present managers and owner-managers 76 percent started their career as food store clerks. A greater percentage of post high school graduates started as assistant managers than did high school or grammar school graduates.

5. Over 97 percent of the food store personnel voiced satisfaction and enjoyment with their work, and 85.7 percent planned to make careers in the food distribution and grocery field.

6. Approximately 60 percent of food store personnel saw advancement potential for themselves. The greatest single factor that seemed to limit job advancement opportunity was a lack of necessary occupational preparation.

7. Three major factors contributed to job dissatisfaction; namely, (1) long and inconvenient hours, (2) lack of qualified help, and (3) customer-co-worker-employer aggravations.

8. Food store personnel indicated that work performance was positively related to the level of education of persons under their supervision.

9. Food store managers, other store personnel and teachers associated with the food industry indicated that more than a moderate need existed for food related courses in vocational schools.

10. Persons preparing for entry and ultimate advancement into managerial positions needed a common core of competencies in areas of human relations, mathematics, merchandising, marketing, salesmanship, product knowledge, business management and accounting.

11. A definite need was cited for placement training and/or on-the-job training for successful preparation entry and advancement in food store occupations.

12. Personnel presently employed in food stores indicated that further education in business management and marketing would be most helpful in their work.

13. Relative to vocational traits that enhance job advancement potential, food store managers regarded the "Ability to get along and work with others" as most important. A person "Well informed about his work" was next in line of importance.

IMPLICATIONS AND RECOMMENDATIONS

Secondary Education: Most persons entering employment in food stores in the immediate future are likely to have little education beyond the secondary school level. Further, many youth will be employed in food stores on a part-time basis during their high school years. In many large communities, the number of youth involved and numbers of opportunities are sufficient to merit special consideration to developing a curriculum for occupational education in food handling and distribution. Considerable variation in subject matter and organization of such curriculum is possible. Each school involved should seek to determine what may best be done within its situation. This curriculum may be used as a general guide.

Proposed Secondary Curriculum

1. General education experiences should comprise about 75 percent of the program.

2. Part-time employment should be utilized as a required learning experience for which the school would assume some responsibility.

3. Special attention should be given to learning experiences in human relations. This may be accomplished through:

    a. class sessions of students who are employed on a part-time basis;

    b. a unit of work incorporated in a "marketing course," or

    c. a special course in human relations.

4. Experiences should be provided which aid students to acquire a broad knowledge of food products. Teachers of agriculture and home economics may well be involved in giving this instruction.

5. An area of vital importance is distribution or selling. This includes emphasis upon mathematics, merchandising and marketing.

6. In summary, a curriculum would include the approximate equivalent of one full year of occupational instruction. This could be spread over at least two school years.

Post Secondary Education: Most persons having education beyond high school are, or aspire to be, in a managerial capacity. They are likely to be persons with previous employment experience. It is anticipated that an increasing proportion of the supervisory and management positions will be filled by persons having post secondary education. A number of post secondary institutions should find this a worthwhile offering to be developed.

Proposed Post Secondary Curriculum

1. Provision should be made for substantial offerings of a general nature. Fifteen semester hours are the suggested minimum.
2. From 6 - 12 semester hours should be offered in food marketing and merchandising.
3. From 3 - 9 semester hours should be offered in product knowledge, including quality control.
4. From 3 - 6 semester hours should be offered in human relations, with special emphasis on supervision.
5. Occupational experience should be required either as a prerequisite to enrollment or during the period covered.

Adult Education: Consideration should be given to developing offerings for employed store personnel. On the basis of this study, first consideration should be given to offerings in management which may enable persons to advance.

CHAPTER I

INTRODUCTION

Demands for more education, both specialized and general, characterize employment requirements in many industries.[1] Additional education is valued in terms of advancing efficiency. It is also recognized as a principal means by which individuals can attain their economic and social aspirations in a technological world.

This study centers on education of employees in one phase of the food industry. It presents data on employment opportunities and educational requirements in food handling and distribution for Connecticut. These data are related to current programs of education in vocational secondary and post secondary schools. Finally, this study presents a guide for developing curriculum in the area of food handling and distribution.

Food Handling and Distribution

The Food Industry including producers, processors, wholesalers, and retailers, is the largest industry in America. The retail value of food consumed was $80 billion in 1964, representing 20 percent of personal consumption expenditures.

Employment in food handling and distribution in 1965 included: (1) Food retailing, 1,419,900, and (2) Food wholesaling, 494,600.[2] Approximately 23,600 persons are employed in food handling and distribution in Connecticut.

Many of these jobs developed with supermarkets which characterize the food retailing industry in urban centers. The supermarket evolution (from 1930) may be said to have sparked the demand for employees to perform specialized duties.

The positions available in food distribution industries are varied in activity, responsibility and financial renumeration. The basic jobs available are listed in Table 1. The numbers refer to a digital classification system frequently used in job analysis. This numbering system is further outlined in Appendix Table 5.

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[1] "Doing Their Homework," Barron's, Dow Jones & Company, January 2, 1967.

[2] Monthly Labor Review, Volume 89, Number 6, Bureau of Labor Statistics, United States Department of Labor, Washington, D. C., 1966.

Table 1: Wholesale and Retail Occupational Positions.[1]

Wholesale Positions

Title	Number
Broker	162.158
Wholesale	185.168
Salesman, Food Products	262.358
Buyer I -- Buys Goods	291.158
Salesman -- Driver	292.358
Salesman -- Driver Helper	292.887
Demonstrator	297.458
Meat Cutter -- Apprentice	316.884
Meat Cutter	316.884
Sorter, Agricultural Produce	529.687
Washer, Agricultural Produce	529.885
Washer, Food Products	529.887
Packer, Hand	667.782
Perishable Fruit Inspector	910.387
Packer, Agricultural Produce	920.887
Foreman, Egg Processing	929.137
Laborer, Stores	922.887
Warehouse Foreman	929.138
Cutter, Banana Room	929.887
Retail Positions	
Display Manager	142.031
Buyer, Assistant	162.158
Buyer, Chainstore	162.158
Manager, Merchandise	185.168
Market Master	186.168
Stock Supervisor	223.138
Refrigerator Man	223.387
Meat Clerk	223.684
Produce Weigher	224.587
Groceryman, Journeyman	290.468
Sales Clerk	290.478
Salesperson, Food	290.877
Peddler	291.858
Salesman -- Driver	292.358
Salesman -- Driver Helper	292.887
Demonstrator	297.458
Manager Department	299.138
Department Head, Supervisor	299.138
Delivery Boy	299.478
Bakery Girl	299.587
Meat Cutter	316.884
Meat Cutter -- Apprentice	316.884
Cashier -- Checker	316.884
Packager, Hand	667.782
Bagger	920.887
Laborer, Stores	922.887

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[1] Dictionary of Occupational Titles, Bureau of Employment Security. Manpower Administration, U.S. Dept. of Labor, Vol. 1, 1965.

Education and Training Needs

From the firm's viewpoint, volume of sales per worker is an important measure. Education before or after employment, which can improve this efficiency factor, merits consideration. Good wages and opportunities for advancement in employment make it worthwhile for prospective and current employees to make special efforts to attain education. The extent to which these propositions relative to the firm and individual are true for food handling and distribution are not well established. However, the efforts of the industry to develop training materials and programs support the beliefs. Also, both public and private institutions offer programs or materials designed to serve persons who have entered or who are preparing to enter food handling and distribution.

As in other significant enterprises, it seems evident that a variety of educational programs are needed. This variation is needed to serve persons having different levels of ability and aspirations. It is needed in terms of job specialization (i.e. meat cutters vs. cashiers).

The nature of these programs and data presented in this curriculum guide suggest three broad areas of educational needs: (1) knowledge of foods and food products (technical), (2) salesmanship, and (3) marketing and management. In traditional programs of vocational education these three areas generally are found in three or more instructional areas: (1) agricultural or home economics (biological science) /knowledge/, (2) distributive education /salesmanship/, and (3) business and economics /marketing and management/. It is recognized by vocational educators that this compartmentalization of offerings requires a new look in terms of many new occupations which cut across them.

Also, it is assumed that educational efforts serving persons in food handling and distribution are likely to be shared by public and private agencies. This study is primarily concerned with the role of secondary schools or two-year post secondary institutions. It is concerned both with programs which may be terminal or extended. The food industry provides opportunities for able students who complete advanced education.

Current Training Programs

Reference was made to a number of preservice educational programs. These could supply but a fraction of the needs for new employees. It is estimated that over 10,000 new employees are annually hired on a part-time basis in the Connecticut Food Retailing Industry. Many new full-time employees are selected from the ranks of part-time employees.

Two types of training programs are conducted. First, the part-time employees are given some informal training by their supervisors. Observations would indicate that this is of a minimal type. A second level of training program is often available to selected potential or present management and supervisory personnel. These programs are conducted or sponsored by central groups and are designed to insure development of managers and supervisors. On-the-job training programs and formal advanced classwork enable employees to advance into these more responsible positions.

OBJECTIVES

The major purpose of this study was to develop an experimental curriculum guide for training persons at the high school and post high school levels in food handling and distribution. As a basis for the curriculum guide, secondary purposes of the study were established as follows:

1. To define the needs for vocational programs[1] in food handling and distribution in reference to preemployment and inservice training.
2. To define the level and type of training needed by students and the special preparation needed by teachers and administrators in their programs.
3. To describe and analyze current programs and courses in food handling and distribution.

General Procedure and Methods

Data were gathered through interviews with over 200 food industries and individuals associated with these industries. These interviews were designed to give the investigators precise information on tasks performed and opinions on educational needs. The firms were selected from those in a defined population of Connecticut firms to assure a representative sample. A description of the sample and results obtained from this part of the study are presented in Chapter II.

Courses and curricula in food handling and distribution were obtained from six secondary schools and seven post secondary schools. Additional curricula from several four-year degree granting institutions were studied.

In addition the following institutions and programs were visited for direct observation of facilities and programs:

School visited

Vocational Secondary Schools

1. Watertown High School
   Watertown, Connecticut
2. Glastonbury High School
   Glastonbury, Connecticut
3. New Branford Technical High School
   New Branford, Connecticut
4. Edward Bok Vocational Technical School
   Philadelphia, Pennsylvania
5. St. Joseph's Preparatory School
   Philadelphia, Pennsylvania

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[1] Educational programs which are below the baccalaureate level and are preparatory for a specific occupational field.

School visited

Vocational Secondary Schools (continued)

6. Murrell Dobbins Technical High School
   Philadelphia, Pennsylvania

Vocational Post Secondary Schools

1. Ratcliffe Hicks School of Agriculture
   University of Connecticut
   Storrs, Connecticut

2. Stockbridge School of Agriculture
   University of Massachusetts
   Amherst, Massachusetts

3. University of Delaware
   Newark, Delaware

4. Saint Joseph's College
   Philadelphia, Pennsylvania

5. Drexel Institute
   Philadelphia, Pennsylvania

6. Agricultural and Technical College at
   Cobleskill, State University of
   New York, Cobleskill, New York

7. Agricultural and Technical College at
   Morrisville, State University of
   New York, Morrisville, New York

CHAPTER II

DETERMINING EDUCATIONAL NEEDS AND EMPLOYMENT OPPORTUNITIES FOR FOOD STORE PERSONNEL IN CONNECTICUT

The paradox of the unemployment situation is that although there are millions of unemployed persons in the United States, shortage of persons with occupational competencies in harmony with agriculture and industry demands persist.[1] Gainful unemployment in the Food Industry and elsewhere is a sad commentary to the untrained who lack only proper preparation and encouragement to make valuable contributions to self and society.

Grant Venn in Man, Education and Work states that: "Technological change (in agriculture and industry) has, rather suddenly, thrown up a dramatic challenge to this nation's political, economic, social, and educational institutions....All levels of education must quickly move to assume greater responsibilities for preparing men and women for entry into the changed and changing world of technological work."[2]

When man and his package of competencies stand in good relation with working world needs, gainful employment results. Vocational educators are charged with the responsibility of harmonizing youth and adult needs with agriculture and industry demands.

Statement of Problem

Courses of study aimed at preparing persons for specialized occupations must undergo continued examination to ascertain whether course content and materials are a means and have meaning in light of requirements for entry and advancement in fast growing and changing occupations. Newly inherited and older but evolving occupations must be analyzed before one is secure in writing course material for them.[3]

The purpose in interviewing food store personnel in Connecticut was two-fold: first, to define present needs for new food store employees in Connecticut; second, to discover what should be taught in vocational preparation for careers in food stores.

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[1] Baker, James K. and Woodin, Ralph J. Research Series in Agricultural Education--A Digest of a Ph.D. Dissertation: Educational Needs of Animal Science Technicians: Issued by the Dept. of Agricultural Education, College of Agriculture and Home Economics, Ohio State University, Columbus, Ohio, November, 1966, page 1.

[2] Venn, Grant. Man, Education and Work--Post Secondary Vocational and Technical Education, American Council on Education, 1964, Washington, D. C., page 1.

[3] Drawbough, Charles. Base Occupational Courses on Job Analysis, Agricultural Education Magazine, July 10, 1966, page 10.

Data analyses identify subject matter areas and other factors functioning in food store occupations and serve as a point of departure for high school and post high school program patterns and curriculum development.

Purposes of the Survey

1. To determine present full-time and part-time employment opportunities for prospective food store employees in Connecticut.

2. To identify levels of education and/or experience of present food store managers.

3. To ascertain job satisfaction levels of present food store personnel.

4. To determine major competencies necessary for prospective food store personnel to enter and advance ultimately into managerial positions.

Basic Assumptions

1. Food store managers, persons under their supervision, and teachers with food or food-related training could identify competencies for successful work performance.

2. Data collected by personal interviews would provide relevant guides for developing curricula for training food store level personnel.

Restrictions

1. The study was restricted to responses from Connecticut food store managers, personnel under their supervision, and teachers when training and experience warranted inclusion.

2. The study was limited to discovery of employment needs, preemployment and inservice training needs of food store personnel.

3. The study was restricted by the extent to which persons interviewed accurately interpreted the interview guide sheet and reported the data requested.

Procedures for Gathering Data

Data were gathered on a sample basis through personal interviews with food store managers and personnel under their supervision and others whose training and/or experience warranted inclusion. A total of 611 persons were interviewed, representing approximately 5 percent of Connecticut's full-time food store work force.

Data relative to present and future full-time and part-time employment opportunities in Connecticut were gathered from correspondence with food chain stores and review of research of off-farm agricultural occupations. The numbers of persons interviewed by position are listed in Tables 2 and 3. An initial interview consisting of only 349 food store personnel analyzed the background of each employee and the general areas of training necessary for each position. A second interview included academic people and included specific ratings of various courses offered in vocational programs.

Table 2: Response of Food Store Personnel by Job Titles to the Initial Interview.

Job Title	Number Interviewed	Percent of Total
Managers, Assistant Managers	114	32.7
Grocery Managers, Assistant Grocery Managers	21	6.0
Meat Managers, Assistant Meat Managers	47	13.5
Produce Managers, Assistant Produce Managers	40	11.5
Bakery, Delicatessen, Frozen Foods or Dairy Managers and Assistant Managers	15	4.3
Meat Cutters	34	9.7
Clerks, Stockboys, Checkers	56	16.0
Cashiers, Bookkeepers	22	6.3
Total	349	100.0

Table 3: Food Store Personnel and Teachers Responding to Second Interview.

Job Classification	Number Interviewed	Percent of Total
Food Store Managers	76	29.0
Food Store Personnel--Nonmanagers	156	59.5
Teachers	30	11.5
Total	262	100.0

The major findings from this survey are presented under the following headings:

1. What Are the Manpower Needs for Food Store Personnel?

2. Who Are Presently Employed in Food Stores?

3. What Are the Food Store Job Satisfaction and Career Findings?

4. What Are the Educational Needs for Food Store Personnel?

What Are the Manpower Needs for Food Store Personnel?

The relatively high turnover rate of part-time food store employees, coupled with openings resulting from growth and other factors point to a good supply of occupational experience opportunities to supplement formal education. Apropos of this finding, Connecticut food store personnel underscored the importance of placement opportunities to successful vocational education programs. Summer and after school work experience and on-the-job training serve a major role in the individual's career development.

The data presented in the following table show a number of full-time positions open to persons knowledgeable and interested in careers in Connecticut food stores. In addition, a recent study[1] showed that 4 major chain stores and 18 wholesale fruit companies employed 1,108 full-time and 510 part-time employees in Connecticut in 1965.

Table 4: Number of Full-Time and Part-Time Food Store Employment Opportunities in Connecticut as Reported by 6 Major Food Chain Stores for 1966.

	Employment Opportunities 1966*	
Major Activity	Full-Time	Part-Time
Food Chain Stores	889	3780

* These 6 major chain stores employed approximately 20% of Connecticut's food store work force in 1966.

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[1] Martin, W. H. and Masley, Philip T., 1965. A Report on Off-Farm Agricultural Occupations, Presented to the Center for Research and Leadership Development in Vocational and Technical Education, Columbus, Ohio, August 1965.

Who Are Presently Employed in Food Stores?

The age of food store personnel responding to this inquiry ranged from 19 to 72 with a mean age of 36.6 years. The mean age for managers was 39.5, 50.6 for owner-managers, and 28.9 years for assistant managers.

Years of formal schooling for all food store personnel averaged 11.5 years; somewhat less than a high school education. Managers and assistant managers averaged 12.1 years, while owner-managers averaged 10.5 years' formal schooling.

Table 5: Average Age and Years Formal Schooling of Food Store Personnel by Job Title.

Job Title	Average Age: Years	Average Years Formal Schooling*
Managers, Assistant Managers	39.6	11.8
Grocery Managers, Assistant Grocery Managers	29.7	12.2
Meat Managers, Assistant Meat Managers	41.5	11.4
Produce Managers, Assistant Produce Managers	37.7	11.3
Bakery, Delicatessen, Frozen Foods or Dairy Managers and Assistant Managers	34.0	11.6
Meat Cutters	36.8	10.4
Clerks, Stockboys, Checkers	31.0	11.4
Cashiers, Bookkeepers	31.2	12.0
Average	36.6	11.5

* A high school diploma equals 12 years.

The series of tables that follow deal with levels of education and work experiences of present food store managers. Approximately 80 percent of all managers interviewed in this survey were high school graduates; 27 percent of this same group having pursued higher levels of education.

Table 6: Formal Schooling Completed by Food Store Managers.

Job Title	Less Than High School	Some High School	High School Diploma	Some College	College Degree
			Percent of Total		
Food Store Managers	9.7	9.7	53.7	22.6	4.3

Over 88 percent of Connecticut's food store managers were employed on a part-time basis while attending high school. Ninety percent of this total were employed by food stores, the majority as clerks. In line with this finding, food store personnel and teachers voiced strong support in favor of some type of work experience, whether it be placement for food training experience before graduation or on-the-job training after graduation.

Only 26 percent of the managers responding to this inquiry were employed on a part-time basis while enrolled in post high school educational institutions.

Table 7: Percent of Total and Location of Part-Time Employment Positions Held by Managers While in High School.

Job Title	Percent of Total Employed Part-Time While Attending High School	Location		
		Food Store	Farm	Other
Managers and Owner-Managers	88.1	90.5	4.1	5.4

Data presented in Table 8 show that, of the managers who did not continue their formal education beyond high school, 52.5 percent followed a general curriculum. Of the 26.9 percent who pursued higher levels of education, 44 percent followed a college preparatory curriculum.

Table 8: High School Curricula of Food Store Managers.

Curriculum	9 to 12 Years Formal Schooling Percent of Total	12 Years Formal Schooling Percent of Total
General	52.5	4.0
Commercial	16.9	24.0
College Preparatory	13.6	44.0
Business	11.9	20.0
Technical-Agriculture	5.1	8.0
Total	100.0	100.0

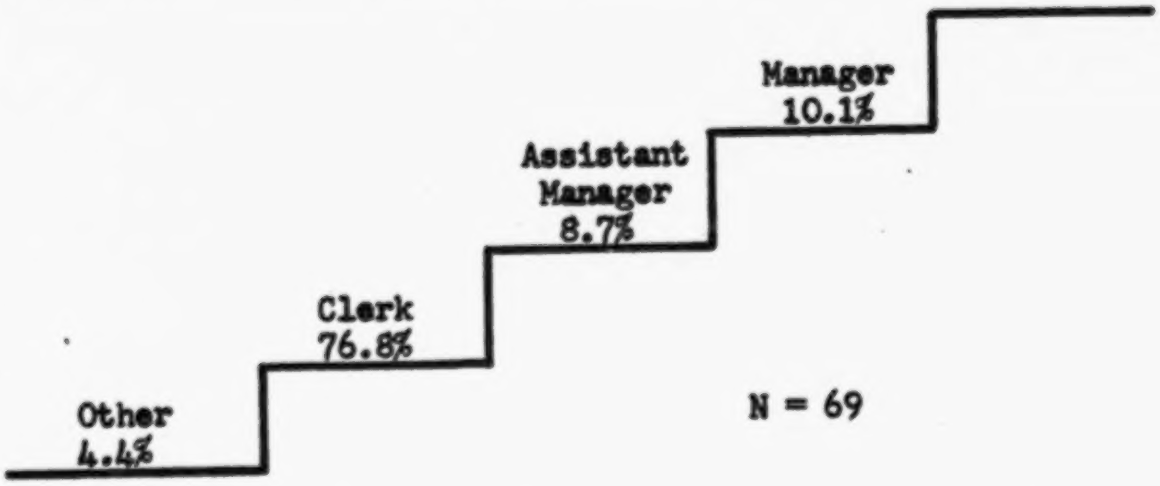
Examination of post high school courses of study indicate a decided business and marketing emphasis.

Table 9: Post High School Curricula of Food Store Managers.

Curriculum	Percent of Total
Business and Marketing	56.0
Industrial Relations	12.0
Bookkeeping and Accounting	8.0
Liberal Arts	12.0
Other	12.0
Total	100.0

Food store managers were asked to trace their "occupational steps" up the ladder to managerial positions.

Figure 1: First Steps to Food Store Management.



The majority began their food store careers as clerks, while a greater percentage of post high school graduates started as assistant managers than did high school or grammar school graduates. Approximately 70 percent of those who started as managers did so by establishing their own food store operation.

What Are the Food Store Job Satisfaction and Career Findings?

Data presented in Table 10 show that 97.4 percent of the food store personnel responding to the first interview guide sheet indicated satisfaction and enjoyment with their work, with 85.7 percent of the total planning careers in the food distribution and grocery field.

Table 10: Response to Three Job Satisfaction Indicators by Job Title.

Job Title	Indicating a Liking for Work	Planning Careers in Food Distribution Percent of Total*	Seeing Advancement Potential for Themselves
Managers, Assistant Managers	94.7	95.6	61.4
Grocery Managers, Assistant Grocery Managers	100.0	95.2	71.4
Meat Managers, Assistant Meat Managers	100.0	100.0	55.3
Produce Managers, Assistant Produce Managers	97.5	82.5	55.0
Bakery, Delicatessen, Frozen Foods or Dairy Managers and Assistant Managers	93.3	53.3	73.3
Meat Cutters	100.0	100.0	64.7
Clerks, Stockboys, Checkers	98.2	60.7	60.7
Cashiers, Bookkeepers	100.0	63.6	36.4
Total	97.4	85.7	59.6

* N = 349. See Table 2 for distribution by job title.

Approximately 60 percent of Connecticut's food store work force responding to this survey saw definite prospects for job advancement. Inadequate levels of education and training and age were major reasons offered as to why advancement potential appeared limited (9 percent) or nonexistent (31 percent).

Response	Percent of Total
Reached peak for level of education and training	39.3
Age	32.1
Advancement potential limited for women	10.7
Small, family owned food store	8.9
Other (illness, not interested in advancement, etc.)	8.9
Total	99.9%

Food store personnel were also asked to indicate areas of dissatisfaction relative to their work. One hundred-fifty three of 349, or 43.8 percent of the personnel, indicated no areas of dissatisfaction. A frequency tally of responses relative to areas of dissatisfaction revealed the following:

Response	Percent of Total
Long and inconvenient hours	37.1
Lack of qualified help	20.8
Customer, co-worker and employer aggravations	19.3
Other (physical lifting and carrying, lack of status, pressure, paperwork, routine, restrictive company policy, lack of organization)	22.8
Total	100.0%

Areas of dissatisfaction have implications for curriculum development. Students must be made aware of core realities if they are to adjust and advance in their work. Dissatisfactions centering around customer, co-worker and employer relations point to the need for human relations education.

What Are the Educational Needs of Food Store Personnel?

Data presented in Table 11 indicate that food store personnel felt a positive relationship existed between level of education and work performance of employees under their supervision. This relation was believed especially true at the high school completion versus noncompletion level.

Table 11: Mean Scores of Registered Relationship Between Level of Education and Work Performance by Job Classification.

Job Classification	Number	Mean Score*
Food Store Managers	76	4.06
Food Store Personnel: Nonmanagers	155	3.92
Total	231	3.96

* Scale:	High Relation (Positive)	Some Relationship (Positive)	Little Relation	No Relation	Negative Relation
	(5)	(4)	(3)	(2)	(1)

In line with this finding, food store personnel and teachers indicated more than a moderate need for food related courses in a vocation-oriented curricula. While some insisted that on-the-job training was all that was necessary, the majority of those interviewed felt a course of study in food store operations would upgrade the credentials of program's graduates seeking food store employment. As was noted earlier, "Lack of qualified help" was a voiced area of dissatisfaction.

Table 12: Mean Scores of Need for Food Related Courses in a Vocation-Oriented Curricula by Job Classification.

Job Classification	Number	Mean Score*
Food Store Managers	75	4.09
Food Store Personnel: Nonmanagers	155	3.87
Teachers	20	3.85
Total	250	3.96

* Scale:	Definite Need		Moderate Need		No Need
	(5)	(4)	(3)	(2)	(1)

In lieu of the job analysis approach in developing occupational courses, that is, making an exhaustive list of manipulative and cognitive activities persons perform while working, food store personnel and others were asked to identify and rate subject matter areas functioning in food store management positions. This latter consideration is important as the relative importance of a course of study. Meat handling and cutting, for example, would vary depending upon whether vocational preparation was for meat cutters or food store managers.

Food store personnel were asked to indicate courses they felt would have been most helpful in terms of their own preparation for food store occupations. Their responses were distributed under the following headings: (1) interpersonal relations and communications (human relations and communicative skills), (2) business and management (business, accounting, and bookkeeping), (3) product knowledge, handling and distribution (marketing and merchandising, mathematics, product quality, and identification), and (4) other areas.

On a percentage of total basis, mathematics at 46.7 percent ranked first, with human relations (43.8 percent), marketing and merchandising (38.9 percent), communicative skills (24.8 percent), business (21.2 percent), and product quality and identification (20.6 percent) following in that order. A tally of responses under "other areas" found work experience, including on-the-job, occupational experience and apprenticeship training, occurring most frequently. (Table 13)

Table 14 presents a summary of opinions of food store personnel regarding courses that would be most helpful if taken at the present time. (Notice the different time reference relative to course choices as between Tables 13 and 14.)

Approximately 28 percent of the total stated that business courses would now be most helpful in their work. Courses in marketing and merchandising, human relations, accounting and bookkeeping, mathematics, product quality and identification, and communicative skills (oral and written) following in order of decreasing importance. This finding has merit in terms of program planning for adult food store operations education. A person's education must never stop. As was noted earlier, the greatest single obstacle standing between food store employees and job advancement was lack of necessary education and training.

Table 13: Response by Food Story Personnel to Courses That Would Have Been Helpful Relative to Entry and Initial Advancement.

Job Title	Interpersonal Relations and Communications		Business and Management		Product Knowledge, Handling and Distribution			Other Areas
	Human Relations	Communicative Skills	Business	Accounting and Bookkeeping	Marketing and Merchandising	Mathematics	Product Quality & Identification	
			Percent of Total*					
Managers, Assistant Managers	53.5	30.7	35.0	38.6	43.9	48.2	15.8	3.5
Grocery Managers, Assistant Grocery Managers	57.1	19.0	38.1	57.1	52.4	42.9	9.5	14.3
Meat Managers, Assistant Meat Managers	32.0	27.7	36.2	12.8	40.4	51.1	34.0	23.4
Produce Managers, Assistant Produce Managers	47.5	27.5	27.5	30.0	45.0	32.5	35.0	22.5
Bakery, Delicatessen, Frozen Foods or Dairy Managers, and Assistant Managers	20.0	20.0	26.6	33.3	33.3	33.3	16.7	6.7
Meat Cutters	32.4	14.7	26.5	23.5	20.6	50.0	38.2	23.5
Clerks, Stockboys, Checkers	35.7	14.3	21.4	25.0	35.7	42.9	8.9	3.6

Table 13: (continued)

Cashiers, Bookkeepers	54.5	36.4	22.7	40.9	27.3	72.7	9.1	4.5
Quantity Weighted Average	43.8	24.9	30.7	21.2	38.9	46.7	20.63	11.2

* N = 349. See Table 2 for distribution by job title.

Table 14: Response by Food Store Personnel Relative to Courses That Would Be Most Helpful If Taken Now.

Job Title	Interpersonal Relations and Communications		Business and Management		Product Knowledge, Handling and Distribution			Other Areas
	Human Relations	Communicative Skills	Business	Accounting and Bookkeeping	Marketing and Merchandising	Mathematics	Product Quality & Identification	
	Percent of Total*							
Managers, Assistant Managers	33.3	16.7	20.2	42.1	28.1	16.7	9.6	1.8
Grocery Managers, Assistant Grocery Managers	9.5	4.8	33.3	9.5	42.9	9.5	0.0	0.0
Meat Managers, Assistant Meat Managers	17.0	6.4	34.0	6.4	25.5	14.9	17.0	6.4
Produce Managers, Assistant Produce Managers	12.5	10.0	35.0	20.0	25.0	17.5	27.5	0.0
Bakery, Delicatessen, Frozen Foods or Dairy Managers, and Assistand Managers	6.7	0.0	26.7	13.3	20.0	6.7	0.0	0.0
Meat Cutters	8.8	8.8	26.5	14.7	5.9	14.7	14.7	0.0
Clerks, Stockboys, Checkers	16.1	1.8	30.4	26.8	14.3	12.5	10.7	5.4

Table 14: (continued)

Cashiers, Bookkeepers	9.1	0.0	31.8	22.7	22.7	31.8	4.5	0.0
Quantity Weighted Average	19.5	8.9	27.8	18.6	23.2	15.8	12.0	2.3

* N = 349. See Table 2 for distribution by job title.

Data presented in Table 15 show the thinking of food store personnel and teachers associated with the food industry regarding the importance of selected course and work experience offerings to food store management training needs.

Table 15: Mean Scores and Composite Mean Scores of Selected Courses and Work Experience Offerings by Food Store Managers, Other Food Store Personnel and Teachers.

	Mean Scores by Job Classification*			
Area of Education	Food Store Manager	Food Store Personnel Nonmanagers	Teachers	Composite Mean Score
General Education				
Mathematics	4.47	4.40	4.53	4.43
English	3.80	3.71	4.33	3.81
Economics	3.54	2.42	4.00	3.49
Government	2.13	2.00	3.30	2.19
Physics	1.49	1.49	1.89	1.54
Chemistry	1.43	1.41	2.52	1.54
Business and Management				
Merchandising	4.77	4.65	4.50	4.67
Business Management	4.68	4.68	4.50	4.66
Marketing	4.38	4.41	4.13	4.37
Accounting and Bookkeeping	4.45	4.10	4.23	4.22
Salesmanship	4.32	4.17	4.13	4.21
General Retailing (Nonfood)	3.66	3.33	4.13	3.70
Secretarial Skills	2.31	2.16	2.45	2.23
Food Group				
Sanitation	4.57	4.69	4.50	4.63
Food Retailing	4.58	4.56	4.43	4.55
Food Quality	4.53	4.58	4.17	4.52
Food Identification	4.55	4.53	4.07	4.49
Meat Handling and Cutting	4.45	4.31	3.26	4.23
Food Processing	4.12	4.29	3.76	4.12
Social Group				
Public Speaking	4.22	4.04	4.26	4.21
Psychology	3.38	3.25	3.66	3.34
Sociology	2.66	2.86	3.03	2.82
Work Experience				
Placement Before Graduation				
Food Training Experience	3.92	3.92	4.31	4.00
After Graduation				
On-the-Job Training	4.79	4.59	4.11	4.59

* Scale: Large Need (5) (4) Moderate Need (3) (2) No Need (1)

Fifteen out of twenty-four, or 62.5 percent of the course or work experience offerings had composite mean scores ranging from 4.00 to 4.76. Eighty-seven percent of this high need category was comprised of food, business and management and work experience areas.

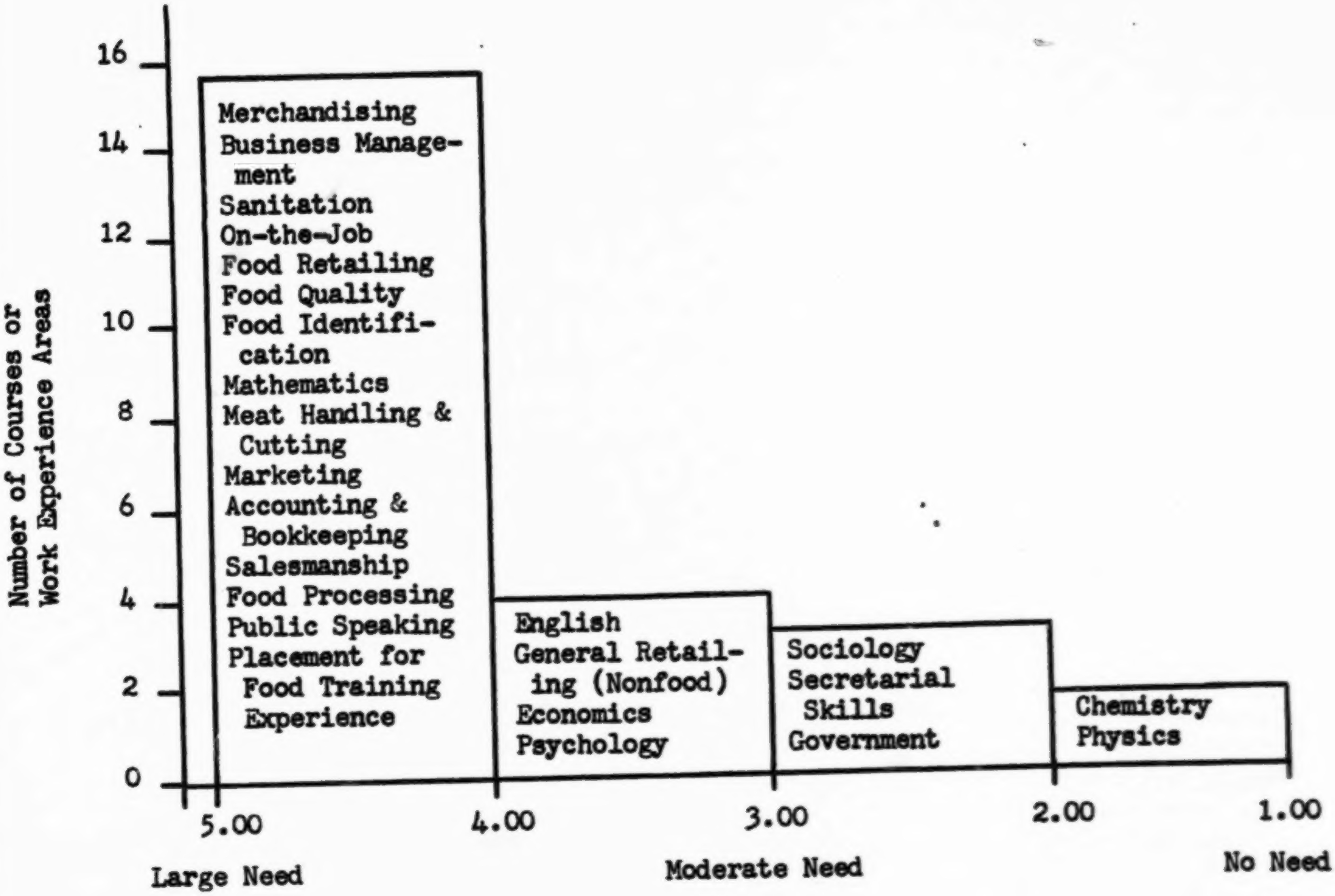
Readers can refer to the table on composite mean score ranking to find the composite mean score for all 24 courses or work experience areas listed in order from highest to lowest need. Composite mean scores ranged from 1.54 (physics and chemistry), to 4.67 (merchandising) with a mean of 3.77. These mean scores show the thinking of food store personnel and teachers associated with the food industry relative to the importance of certain courses and work experience offerings to food store personnel training needs.

Table 16: Composite Mean Score Ranking of 24 Selected Course or Work Experience Offerings.

Course or Work Experience Area	Composite Mean Score*
Merchandising	4.67
Business Management	4.66
Sanitation	4.63
On-the-Job Training	4.59
Food Retailing	4.55
Food Quality	4.52
Food Identification	4.49
Mathematics	4.43
Marketing	4.37
Meat Handling and Cutting	4.23
Accounting and Bookkeeping	4.22
Salesmanship	4.21
Food Processing	4.12
Public Speaking	4.12
Placement for Food Training Experience	4.00
English	3.81
General Retailing (Nonfood)	3.70
Economics	3.49
Psychology	3.34
Sociology	2.82
Secretarial Skills	2.23
Government	2.19
Chemistry	1.54
Physics	1.54

* Scale:	Large Need (5)	(4)	Moderate Need (3)	(2)	No Need (1)

Figure 2: Relative Need for Courses in a Food Handling and Distribution Curriculum.



Closer examination of the data in Table 15 reveal that mean scores per course or work experience area vary as between food store managers, other food store personnel, and teachers associated with the food industry. Mean scores relative to meat handling and cutting, for example, range from 3.26 to 4.45. Was this difference and other observed differences in course ratings as between (A) managers, (B) other food store personnel, and (C) teachers, due to chance variation, or was there a statistically significant difference in course ratings as between these three groups?

A standard Chi Square Test of significance was applies to the 24 course and work experience offerings identified in Table 15, to measure the discrepancy existing between observed frequencies and expected frequencies according to the assumed hypothesis (H_0) that observed differences in ratings or between groups A, B, and C might be due to chance.

The following results were obtained:

1. Groups A, B, and C showed a significant difference in rating 10 out of 24 or 41.7 percent of the courses or work experience areas.

2. Fourteen courses that showed no significant difference in ratings as between groups A, B, and C; 10 courses showed no significance at the 1 percent level.

Quality food store training programs require that vocational education institutions teach competencies needed for successful entry and advancement in food stores. There is agreement as to important competencies functioning in food store operations. Further testing needs to be done to ascertain which groups rated each of these courses significantly different from the other two groups.

Food store managers were asked to identify vocational traits that enhance job advancement potential. "The Ability to Get Along With Others" ranked first, being cited by almost 80 percent of the managers responding to the inquiry. Growth of food store size and numbers of employees have increased the complexities of interpersonal relations. This finding has implications for even greater emphasis upon human relations education. These traits are illustrated in Table 17.

Table 17: Desirable Vocational Traits As Indicated From Responses by Food Store Managers.

Vocational Traits*	Number	Percent of Total**
Cooperative; able to get along with others; interest in work	40	78.4
Well informed about job	33	64.7
Responsible and dependable	27	52.9
Does work well; makes few mistakes	25	49.0
Does work quickly and well; does extra work to keep busy	24	47.0
Personal appearance	21	41.1
Adaptive; able to adjust quickly to new assignments	20	39.2
Total	190	

* Adapted from Personnel Management: Developing Good Employees. Administrative Management Course Program Topic 6, Small Business Administration, Washington, D. C., 20416, 1965.

** Total number of managers in sample equals 51.

Finally, all comments made by food store personnel and teachers were collected and analyzed for relative values. A summary of major opinions follow:

1. The possibility for Connecticut's food stores to serve as training stations where students could apply basic principles and updated techniques learned in the classroom to on-site food store operations problems was met with enthusiasm. Apropos of this finding, it was suggested that areas of training responsibility be defined as between food store and vocational schools in order to facilitate specialization in areas of greatest resourcefulness.

2. Also, astute observations were made regarding the relation between vocational and general education. While most supported the purpose of vocational education (to fit persons for gainful employment), they also indicated that in the final analysis we should be more interested in the someone students become rather than the something they become.[1]

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[1] Hoyt, Kenneth. The Challenge of Guidance to Vocational Education. (Address during the 59th Annual Vocational Convention — December 6 through 11, 1965, at Miami Beach, Florida.)

SUMMARY OF FINDINGS

What Are the Manpower Needs for Food Store Personnel?

1. Six major food chain stores employed 20 percent of the total Connecticut food store work force in 1966.

2. There were 889 full-time and 3780 part-time openings reported by 6 major Connecticut food store chains in 1966.

Who Are Presently Employed in Food Stores?

1. Personnel identified in this study represented approximately 5 percent of Connecticut's total full-time food store work force.

2. The age of food store personnel responding to the first interview guide sheet ranged from 19 to 72 with a mean age of 36.6 years.

3. Years of formal schooling for food store personnel responding to the first interview guide sheet averaged 11.5 years. Over eighty percent of the managers and owner-managers had the benefit of at least a high school education.

4. Eighty-eight percent of present managers and owner-managers were employed part-time while in high school; the majority having worked in food stores as clerks. Approximately 27 percent of present managers and owner-managers were employed part-time while attending post high school educational institutions.

5. The majority of food store managers followed a business and marketing curriculum while attending post high school educational institutions.

6. Over seventy-six percent of present managers and owner-managers started their career as food store clerks. A greater percentage of post high school graduates started as assistant managers than did high school or grammar school graduates.

What Are the Food Store Job Satisfaction and Career Findings?

1. Approximately ninety-seven percent of the food store personnel voiced satisfaction and enjoyment with their work, and 85.7 percent planned to make careers in the food distribution and grocery field.

2. Approximately 60 percent of food store personnel saw advancement potential for themselves. The greatest single factor that seemed to limit job advancement opportunity was a lack of necessary occupational preparation.

3. Three major factors contributed to a job dissatisfaction; namely, (1) long and inconvenient hours, (2) lack of qualified help, and (3) customer-co-worker-employer aggravations.

Educational Needs for Food Store Personnel

1. Food store personnel indicated that work performance was positively related to the level of education of persons under their supervision.

2. Food store managers, other store personnel, and teachers associated with the food industry indicated that more than a moderate need existed for food related courses in vocational schools.

3. Persons preparing for entry and ultimate advancement into managerial positions needed a common core of competencies in areas of human relations, mathematics, merchandising, marketing, salesmanship, product knowledge, business management, and accounting and bookkeeping.

4. A definite need was cited for placement training and/or on-the-job training for successful entry and advancement in food store occupations.

5. Personnel presently employed in food stores indicated that further education in business management and marketing would be most helpful in their work.

6. Different emphases were noted as between courses food store personnel indicated would have been helpful in their work (entry phase primarily) and courses regarded as helpful now (advancement phase primarily). The former emphasized mathematics and human relations competencies. The latter emphasized business and management, marketing and merchandising.

7. Relative to vocational traits that enhance job advancement potential, food store managers regarded the "Ability to get along and work with others" as most important. A person "Well informed about his work" ranked second.

8. Chi Square Test of significance was chosen to determine whether the observed differences in course ratings as between (A) food store managers, (B) other store personnel, and (C) teachers associated with the food industry might be due to chance. Results of the Chi Square Test show that groups A, B, and C differed significantly in their ratings of 10 of 24 course and work experience areas listed in Table 15.

IMPLICATIONS AND RECOMMENDATIONS

Secondary Education: Most persons entering employment in food stores in the immediate future are likely to have little education beyond the secondary school level. Further, many youth will be employed in food stores on a part-time basis during their high school years. In many large communities, the number of youth involved and numbers of opportunities are sufficient to merit special consideration to developing a curriculum for occupational education in food handling and distribution. Considerable variation in subject matter and organization of such curriculum is possible. Each school involved should seek to determine what may best be done within its situation. This curriculum may be used as a general guide.

Proposed Secondary Curriculum

1. General education experiences should comprise about 75 percent of the program.

2. Part-time employment should be utilized as a required learning experience for which the school would assume some responsibility.

3. Special attention should be given to learning experiences in human relations. This may be accomplished through:

    a. class sessions of students who are employed on a part-time basis;

    b. a unit of work incorporated in a "marketing course," or

    c. a special course of human relations.

4. Experiences should be provided which aid students to acquire a broad knowledge of food products. Teachers of agriculture and home economics may well be involved in giving this instruction.

5. An area of vital importance is distribution or selling. This includes emphasis upon mathematics, merchandising, and marketing.

6. In summary, a curriculum would include the approximate equivalent of one full year of occupational instruction. This could be spread over at least two school years.

Post Secondary Education: Most persons having education beyond high school are or aspire to be in a managerial capacity. They are likely to be persons with previous employment experience. It is anticipated that an increasing proportion of the supervisory and management positions will be filled by persons having post secondary education. A number of post secondary institutions should find this a worthwhile offering to be developed.

Proposed Post Secondary Curriculum

1. Provision should be made for substantial offerings of a general nature. Fifteen semester hours are the suggested minimum.
2. From 6 - 12 semester hours should be offered in food marketing and merchandising.
3. From 3 - 9 semester hours should be offered in product knowledge, including quality control.
4. From 3 - 6 semester hours should be offered in human relations, with special emphasis on supervision.
5. Occupational experience should be required either as a prerequisite to enrollment or during the period covered.

Adult Education: Consideration should be given to developing offerings for employed store personnel. On the basis of this study, first consideration should be given to offerings in management which may enable persons to advance.

SECONDARY LEVEL
SUGGESTED CURRICULUM FOR EXPERIMENTATION IN FOOD HANDLING AND DISTRIBUTION

11th Year	Units
English	(1)
Physical Education	(0)
Mathematics	(1)
Electives (Science, bookkeeping, language, economics, business law)	
Marketing	(1)
Human Relations and Salesmanship	(½)
Occupational Experience	(½)

12th Year	Units
English	(1)
American History & Government	(1)
Physical Education	(0)
Food Product Knowledge and Quality Standards	(1)
Human Relations and Supervisions	(½)
Occupational Experience	(½)

SUGGESTED POST SECONDARY CURRICULUM FOR EXPERIMENTATION IN FOOD HANDLING AND DISTRIBUTION

First Semester	Credits
English	(3)
Mathematics	(3)
Food Science (preservation and sanitation)	(4)
Economics	(3)
Elective	(3)
Physical Education	(0)
	16

Second Semester	Credits
English	(3)
Bookkeeping & Accounting	(3)
Food Science and Nutrition	(4)
Food Marketing	(3)
Elective	(3)
Physical Education	(0)
Judging Team Participation[1]	(0)
	16

Third Semester	
Oral and Written Communication	(2)
Human Relations & Salesmanship	(3)
Accounting	(3)
Food Quality Standards and Control	(5)
Legal Problems in Food Distribution	(3)
	16

Fourth Semester	
Merchandising	(3)
Human Relations & Supervision	(3)
Marketing Information and Research	(4)
Store Management	(3)
Elective	(3)
	16

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[1] Judging team participation may be an extracurricular activity.

CHAPTER III

PARAMETERS FOR VOCATIONAL TRAINING IN FOOD HANDLING AND DISTRIBUTION

Broad parameters exist in vocational training in all the food related industries,including food distribution. Job levels range from positions for handicapped and retarded persons to executives and research scientists. No single program can or should try to cover this entire range, but must necessarily limit itself to a specific segment of the whole. This curriculum guide presents the grocery store level positions and the curriculum necessary to train personnel for these positions. The fundamental nature of the program also qualifies students for many wholesale food positions and many staff food positions after experience and on-the-job training are attained. Job experience is an integral part of the vocational training program.

The social aspects of a food store position are of paramount importance. The employee must cater to the customer's needs. Customers demand quality products, honest value, pleasant environment, and reputable personnel. The career employee,in addition to constant customer contact, must also supervise other employees and accept supervision from higher company officials. Continual contact with other people thus is the rule for food store positions.

The food trade demands certain skills that must be developed by employees. Meat cutters and bakers normally practice as apprentices before advancement to responsible positions. Produce, grocery, and frozen food managers must be knowledgeable of their products as well as able merchandisers. Accounting and inventory control skills are also requirements for advancement. Clerks and stockboys must be adept in pricing, shelf stocking, product control and sanitation. All store positions require some training.

Schools establish basic requirements for all of their students. These courses establish a core around which the applied and vocation related courses must build. Food and merchandising courses are dependent upon the background of the teacher and available facilities. New teaching programs may require teacher training. Facilities may be minimal if supplemented by close industry association. Facilities and teacher requirements are further developed in this unit.

Student potential in a food distribution program must be developed. The tremendous opportunity exists for part-time food store employment at convenient hours during the students free time. However, interest must be nurtured to maintain student demand. This is enhanced by industry encouragement, job advancement, teacher enthusiasm, adequate counseling,and parent acceptance. These must be integrated into the total program to insure a high percentage of satisfaction.

The data presented in the preceeding chapter point to opportunities for youth to enter the food industry, and indicate the preparation which would be helpful. Whether or not a particular school or college should develop a program is a matter for decision by the governing board. However, many institutions offer some instruction in the areas indicated as important in this study. These institutions may find it desirable to experiment with curriculum which will strengthen their offerings designed specifically to prepare youth for careers in food handling and distribution.

In making a change in curriculum for a school or college it is well to approach the problem on an experimental or trial basis. This requires that the change be initiated in the nature of a pilot program with provision for evaluating its effectiveness. Space does not permit a full discussion of all factors involved in operating a pilot or experimental program.

A pilot program in occupational education generally should provide the following:

1. Making a survey of local employment and/or training opportunities;

2. Organizing and meeting with an advisory committee which includes representatives from employers and employees;

3. Developing criteria which are to be used in selecting students;

4. Establishing courses of study and curriculum plans including work experience and practical laboratory experience;

5. Selecting teachers and/or coordinators;

6. Establishing policies and procedures for conducting and evaluating the program;

7. Involving faculty and parent to insure understanding of the proposed changes; and

8. Obtaining resources required.

Suggestions offered in this publication relate to (1) selection of teachers; (2) development of facilities; (3) selection of students; (4) use of work experience; and (5) utilization of staff and physical resources. In addition the following chapter presents sample curriculum materials and an extensive bibliography.

TEACHER REQUIREMENTS

The primary purpose in vocational and post secondary or technical programs is development of occupational competency. To achieve this purpose, instruction is based upon practices and principles found in the occupational areas. Teachers require some knowledge of the occupation which may be gained through varying combinations of experience in the occupational field and formal schooling. Requirements are specified for teachers in public schools by the Connecticut State Board of Education. These regulations are published from time to time under the title of, "Regulations for Teachers Certificates."

Selected requirements for certification in vocational subjects are shown below:[1]

Subject Area/Level	Major Requirements
Vocational Technical	Eight years of experience and high school graduate
Vocational Agriculture	B.S. degree in agriculture and three years of experience
Vocational Home Making	B.S. in home economics
Distributive Education	B.S. degree and one year of experience

The certification regulations (current) apply to employment of teachers in designated instructional areas. As new courses and programs evolve, consideration is given to establishing specific regulations for teacher certification.

In the case of courses and programs in food handling and distribution, some anticipation of requirements is possible. Those courses which have a considerable body of abstract and technical content require a teacher who has mastered it. On the other hand, courses in which primary emphasis of content is on behaviors associated with work in food handling and distribution industries require some background or experience in the industry. Thus, programs of instruction might be expected to need teachers with different talents. The particular talents required will be conditioned, in part, by the courses to be taught or programs to be coordinated, which in turn reflect abilities and knowledge demanded in the occupational area. Regard is necessary also for developing instructors with sound orientation and intellectual base for maximum advancement of students in their careers.

In selecting or designating coordinators or teachers for courses in food handling and distribution, special consideration should be given to these competencies:

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[1] Regulations for Teachers Certificates, Eleventh Edition, State Department of Education, Hartford, Connecticut, 1963.

1. Interest in and general knowledge of occupations in the industry.

2. Knowledge and experience in selling — with emphasis on fundamental human relations.

3. Knowledge of foods; standard varieties, grades and quality control, uses and value.

4. Knowledge and experience in store organization, operation, management and record keeping.

5. Knowledge of economics of marketing with special reference to the industry.

6. Skill and knowledge in meat cutting.

It is obvious that no one teacher is likely to meet all requirements. In post secondary institutions, specialization in course offerings makes possible a high agreement of the instructor's competency and course offerings. In secondary schools it may also be feasible to draw on special competencies of existing staff. These would include business, home economics, and vocational agriculture teachers. The requirements for a coordinator of the program at either level should include special emphasis on areas of food knowledge, salesmanship and store operations.

Beyond the desired personal qualities the "ideal" coordinator for a food handling and distribution program might have the following educational and experience background:

1. The equivalent of two full years of employment in the food industry — this could include part-time employment. Quality of experience should be considered as well.

2. A Bachelor's Degree, with a major in food science or marketing and professional preparation for teaching.

3. A Master's Degree with additional work in food science marketing economics and related areas and successful teaching experiences.

SCHOOL FACILITIES

The physical facilities for teaching food handling and distribution will vary considerably according to local situations, level of training, available space, funding support by local industry, and the background of the faculty. In nearly every case, however, needs will change from time to time particularly as the program grows and develops maturity.

A high school having no facilities for teaching food distribution may do well in designating one classroom to the subject. Where this is the case, space must be considered at a high premium and be utilized to the fullest. Advantage of complementary areas and facilities should be noted and evaluated. The single classroom should not duplicate food facilities in the home economics area, merchandising equipment in distributive education, or chemical ware of the physics and chemistry groups. Rather, a spirit of cooperation must exist to the mutual gain of all.

The single classroom facility priority should center around an information reference source. If a good central library exists, text type references may be kept there plus trade journals after they have initially been circulated to interested persons. One area of the room should avail itself to reference material consisting of food marketing books, trade journals and newspapers, company publications, promotional literature and general food trade communications. Students exposed to these daily will make use of them. A second area should consist of a model display window or merchandising case. If a freezer is available it should be included. Frequently the food distribution students can obtain valuable experience in food merchandising and management by operating a concession to other students and staff. Financial returns can be used to support further training aids, outings to local businesses, and training trips to distant urban terminals during vacation periods. The concession need not be physically located in the food distribution classroom, but should have storage there and have management headquarters and accounting there. A portable type cash register will augment this. The center front of the room should have a teacher demonstration table equipped with a sink with hot and cold running water, electrical outlet, gas outlet, stainless steel table, and burner plates. Seating space normal to the classroom should be provided. In addition work tables for student participation are desirable. Storage space must be available for foods and equipment. Promotional display areas can be made up and help stimulate student interest.

A separate demonstration and participation laboratory allows more active student involvement. Each student should have his own bench space of approximately 30 inches minimum width, access to an adjacent sink, and a storage drawer or cabinet. Separate supply areas, equipment areas and refrigeration space can be common to all users. An illustration of this is shown in Figure 5. Frequently local food stores will freely cooperate with the food training program and provide food at a discount for teaching and demonstration purposes. When food is at hand, a merchandising area can be real and useful. Sale periods can be established to give students selling experience. Food distribution students can serve as the merchandisers for home economics baked goods, faculty specials and as caterers to sporting events and other social activities. The basic equipment necessary for these activities are display cabinets, refrigeration unit, sales counter, cash unit, record file and supply storage. A heat unit and coffee urn are normal for social activities. Portable units are preferred where no centralized unit exists.

Table 18: First Priority Equipment for Food Distribution Classroom and Demonstration Laboratory.

	Equipment	Description
1.	Analytical scales (2)	Accurate to .001 grams
2.	Gram scales	Accurate to 1 gram
3.	Meat scales	¼ lb. to 24 pounds
4.	Portable carts	
5.	Heat sealer	Pressure operated one preferred
6.	Metal pans - 8"x12"x2"	One per student
7.	Metal pans - 10"x16"x3"	One per student
8.	4 metal 10 gallon containers	
9.	Graphics sets	Printing supplies
10.	Garbage disposal	
11.	2 ranges	30" oven and 4 burners
12.	Refrigerator	Display unit type
13.	Freezer	Upright display unit
14.	Cash register	Place on portable cart
15.	Price marker	
16.	Paper cutter	
17.	Bulletin board	
18.	Chalk board	
19.	File record cabinet	
20.	Storage cabinets	
21.	Cooking utensils	Knives, spoons, etc.
22.	Chemical ware	Beakers, test tubes, etc.
23.	Cutting boards	One per student
24.	Thermometers	One per student
25.	Bunsen burners	One per student
26.	Microscope	
27.	Fire extinguisher	
28.	First aid unit	
29.	Pressure cooker	
30.	Food mixer	
31.	Food chopper	
32.	Meat grinder	
33.	Micrometer	
34.	Exhaust fan	
35.	pH meter	

Table 19: Second Priority Equipment for a Food Distribution Demonstration Laboratory.

Equipment
1. Deep fat fryer
2. Microwave oven
3. Viscosimeter
4. Refractometer
5. Microscope
6. Drying oven
7. Bell jar desiccator
8. Photospectrometer
9. Water bath
10. Water distillation unit
11. Package testing equipment
12. Drafting equipment and drafting board
13. Can sealer
14. Ultraviolet light
15. Retort
16. Moisture tester

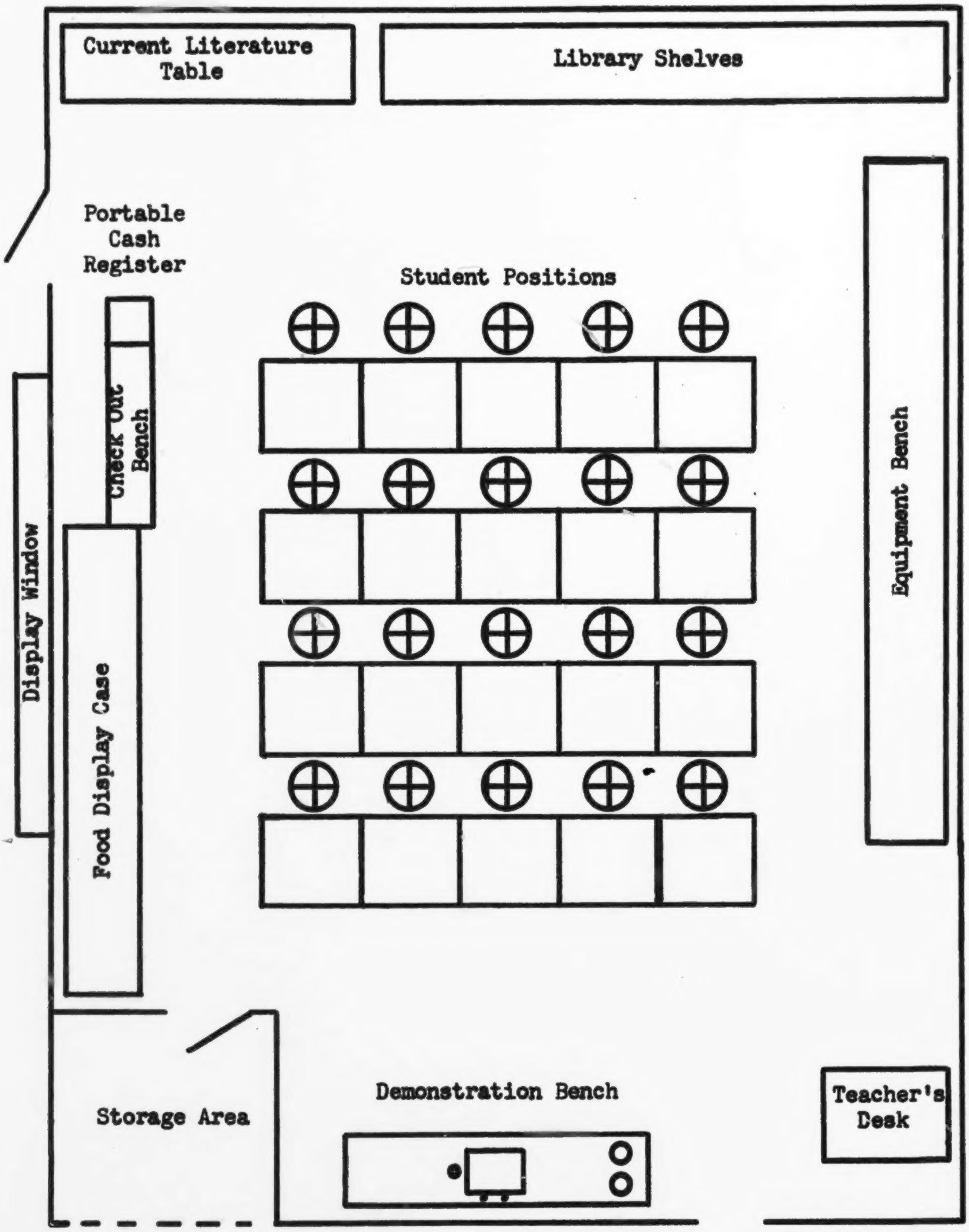

Current Literature Table
Library Shelves
Portable Cash Register
Student Positions
Check Out Bench
Display Window
Food Display Case
Equipment Bench
Storage Area
Demonstration Bench
Teacher's Desk

Figure 3: Model Lecture - Demonstration Classroom for Food Handling and Distribution.

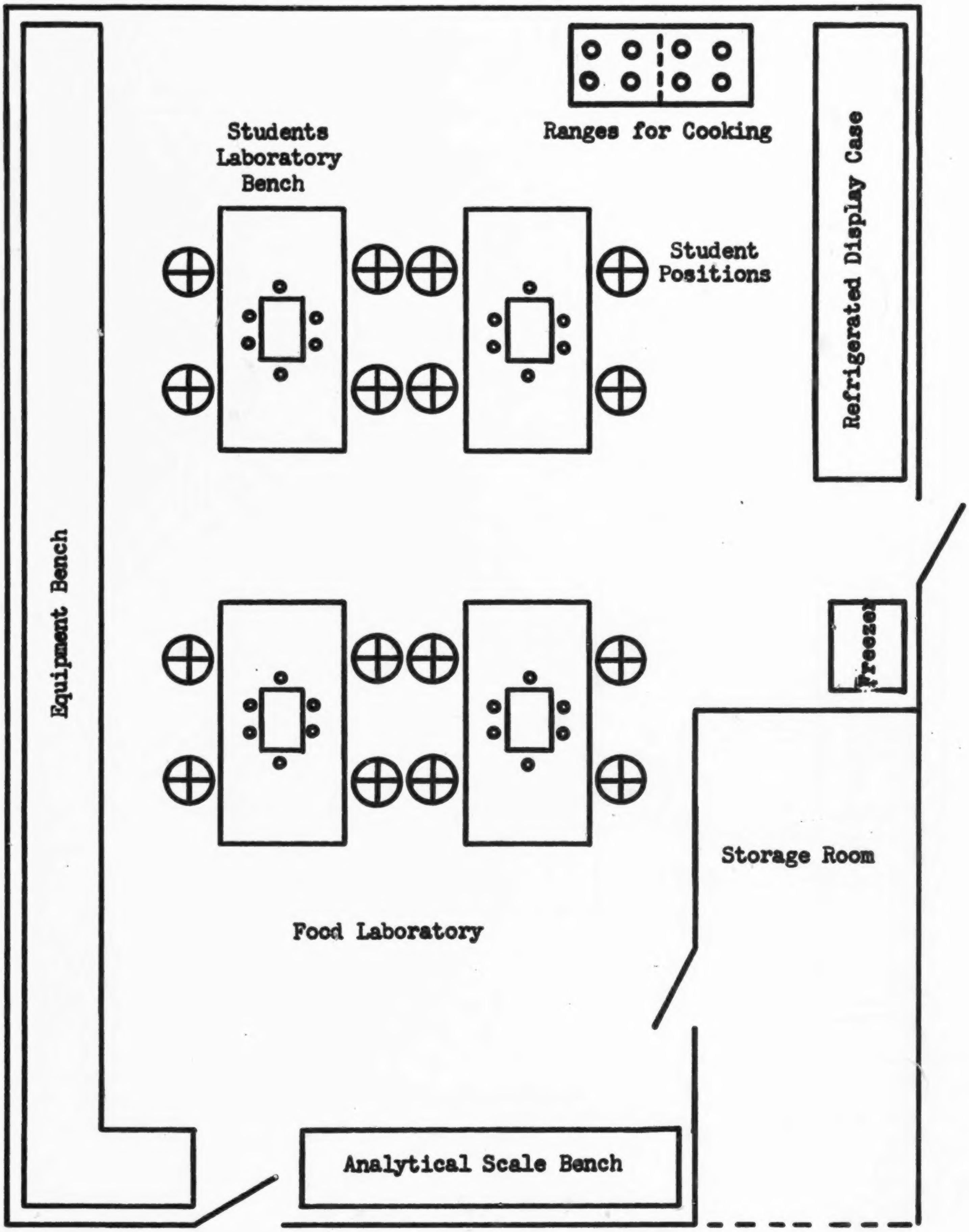
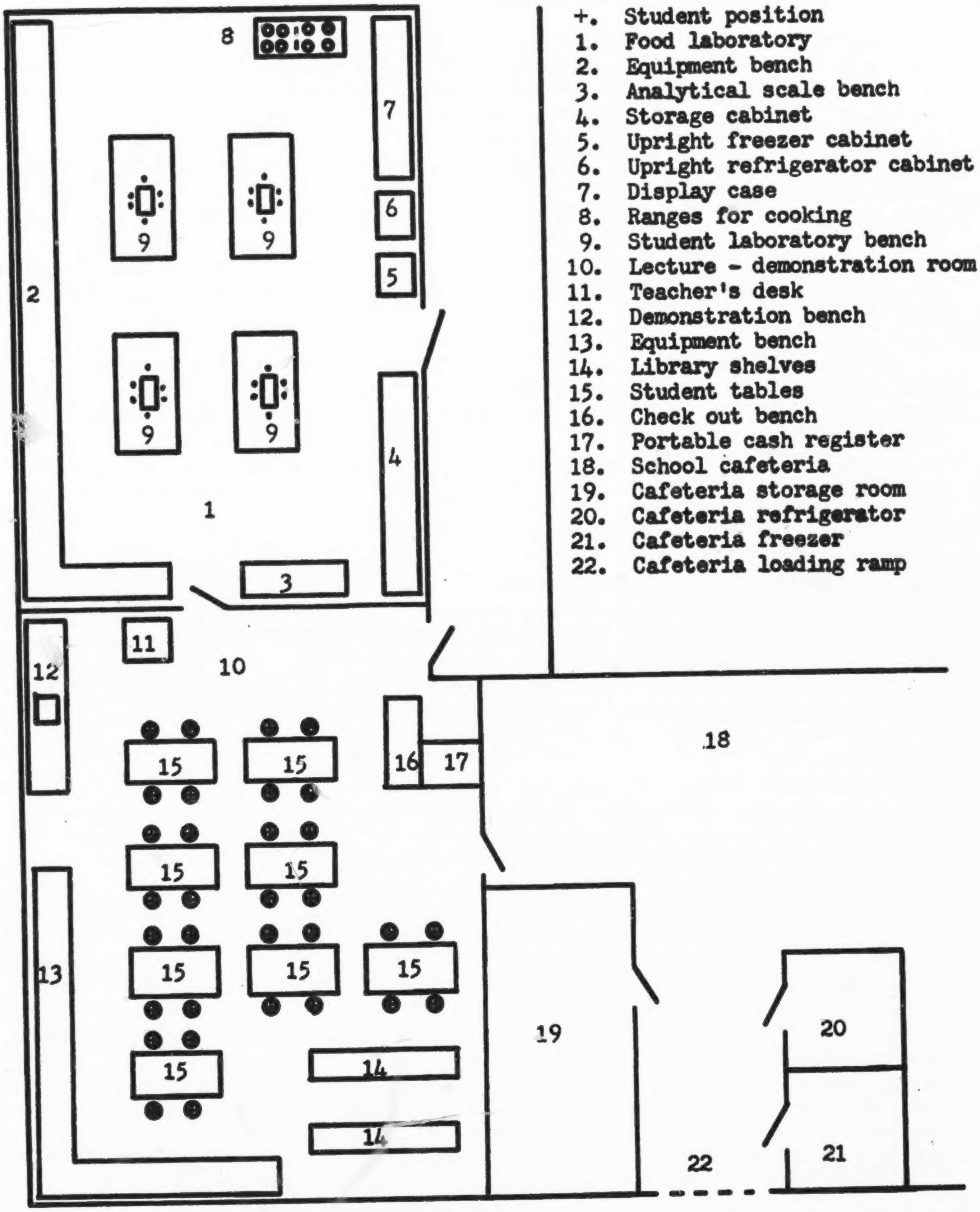

Ranges for Cooking
Students Laboratory Bench
Student Positions
Refrigerated Display Case
Equipment Bench
Freezer
Storage Room
Food Laboratory
Analytical Scale Bench

Figure 4: Model Food Distribution - Technology Laboratory



+. Student position
1. Food laboratory
2. Equipment bench
3. Analytical scale bench
4. Storage cabinet
5. Upright freezer cabinet
6. Upright refrigerator cabinet
7. Display case
8. Ranges for cooking
9. Student laboratory bench
10. Lecture - demonstration room
11. Teacher's desk
12. Demonstration bench
13. Equipment bench
14. Library shelves
15. Student tables
16. Check out bench
17. Portable cash register
18. School cafeteria
19. Cafeteria storage room
20. Cafeteria refrigerator
21. Cafeteria freezer
22. Cafeteria loading ramp

Figure 5: Food Handling and Distribution Teaching Wing Connected to Cafeteria and Food Laboratory.

STUDENT SELECTION

Student selection and recruitment for a food handling and distribution program should be based upon the student's interest in the field. This interest can be both stimulated and nurtured through direct contact with food distribution organizations and leaders. Part-time job opportunities are abundant in the supermarket. This experience can be the primary interest building media as well as an encouragement to further one's knowledge. The practical knowledge gained from part-time work also builds a confidence base to the industry if the part-time employee is allowed to perform several functions and is encouraged in his work. Teenagers find themselves working with teenagers. Responsible positions are gained as rapidly as the person can handle them. They observe there is plenty of room for advancement with no ceilings other than ability and perserverance.

High schools desiring to build up student enrollment in a food distribution program should work closely with local food markets, brokers, processors and institutional representatives. Part-time work and summer placement with these groups may serve as the initial interest builder. Speakers brought in to discuss their respective fields and career opportunities have limited appeal. Field trips to directly observe many occupations in their actual environment serves a good purpose.

Post high school programs tend to serve larger areas than the local community. Therefore, program promotion and recruitment must be carried out on a higher scale. Career day programs where high school students are brought in to observe the facilities and meet the faculty are usually fairly successful if adequate planning and announcements are accomplished. Most selection and recruitment can be carried out through key contacts which are secondary school teachers, guidance counselors, and food company personnel directors. Scholarships and work incentive plans are a definite aid in recruitment.

The academic standards need not be narrow for either secondary or post secondary student selection. The opportunities are vast and at all levels. The highly intelligent youth can reap major rewards from this vocational program. He need not feel it is terminal nor need his course program be of a terminal nature. Openings for more education will continually exist for those who are qualified. Vocational training is not a deterrent to further formal training. The many employment opportunities tend to inspirit direct application of the training for immediate financial gain. Even when this takes place, formal training should still be sought for the brighter individuals to aid their advancement. Mr. Malcolm J. Reed, President of the National Association of Retail Grocers, stated "My own small chain of stores has had 63 employees take various courses in management, display and promotional advertising in the past 5 years. We find it tends to elevate an especially good employee in the eyes of his fellow workers if we send him off for a few weeks or days of special training. It has a certain mystery to it, and we can elevate this employee to an assistant manager's position without resentment from his fellow employees."[1]

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[1] "Nargus President Urges Better Build-Up for Careers." Supermarket News, August 22, 1966.

Students of median range intelligence generally are more numerous in the food distribution area than those from higher or lower ranges. This is satisfactory as the greatest number of employment opportunities exist for the middle intelligence group. The lower 25 percentile of students could find menial opportunities but would have difficulty understanding the complexities of food retailing and could not assume positions of responsibility.

In all cases students selected for the program should be of high moral character, honest and possess integrity of action.

INTERRELATIONSHIPS OF PROGRAMS

A food handling and distribution curriculum can function efficiently in coordination with other vocational programs. Some of the units of instruction needed for this program will in many cases be similar to those needed for distributive education, vocational agriculture, science, business and home economics. This interdisciplinary demand both strengthens and broadens all the curricula involved in that it provides greater numbers of students and greater student interest when course work is shared by several areas. In addition facilities can be used more fully and supplies frequently can be made to serve more than one objective.

Vocational agriculture curricula offer several areas basic to food distribution. These frequently include identification of fruit and vegetable varieties and their seasonal availability, meat cutting and grading, poultry and egg grading, quality control and sanitation. Vocational agriculture teachers cooperating in the food distribution program need to be well versed in these areas plus knowledge in bacteriology, food preservation and marketing. Discussions on food production, processing and wholesaling can fit into the agricultural area.

The distributive education area will include units in retailing, store operations, salesmanship, and general merchandising. These units offer the fundamentals needed for food distribution oriented students. Classroom examples and business experience should center around food retailing if food students are handled separately. Lessons in cash register operation, check out skills, record keeping and general management techniques are identical for both food and nonfood retailing.

The science and biology departments should be familiar to the food distribution students. General courses in chemistry, biology and in some cases physics are in demand by students interested in food processing, preservation, inspection and quality control. These fundamental courses have many applications in understanding food flavor control, sanitation, and public health standards. Since food is subject to metabolic changes and can easily become a public health hazard through misuse or misunderstanding, basic knowledge in these areas is important.

The business department courses in marketing, accounting, and business management will coincide with the food distribution business needs. It is not necessary or even recommended that food students be taught separate courses in these areas. Teachers need not place special emphasis on food retailing but should provide some problems and examples relevant to the food industry and point out areas of uniqueness within the industry.

The home economics department can make a significant contribution in nutrition, food preservation and consumer reactions. Since catering to the consumer's food needs is the major objective in food retailing, the home economics group will have much in common with the food distribution group and should serve as a compliment to each other. Cooperative courses by these two groups also aid in the boy-girl ratio and stimulates more class interest.

OCCUPATIONAL EXPERIENCE

Opportunities are abundant in most communities for gaining occupational experience. Minimum age standards prevent the very young from direct store employment. Sixteen is the minimum for most food companies. Students younger than this can seek school activities where food service is a part. School clubs and 4-H projects provide learning experience. As soon as the working age is attained, part-time employment in the retail food store compliments food handling skills. Restaurant work and other food service employment also provides good practical experience. Students should in addition seek opportunities with farms, processing plants, or food delivery companies to broaden their background of food production and marketing. The necessity for financial resources and proximity to the home are major factors in job selection during the school year.

Summer employment for students should be meaningful and broadening. Living accomodations and nearness to the home are again frequently prime factors. They tend to become of less importance as the students mature. Persons over 18 years of age should put the learning experience ahead of other criteria when at all possible in selecting their summer employment. Travel to other areas, states and out of the country is encouraged. Reading and self improvement should also be a part of the summer program. Teachers and guidance counselors should aid students in their summer placement.

The criteria used to judge adequacy of occupational experience may vary with regard to the individuals needs. However the fundamentals involved can be categorized into several groups. The relative importance of each group must be applied to the local condition.

1. The experience should add to the growth and development of the individual.

   Factors to be considered:
   a. Depth of learning
   b. Broad area of experience
   c. Areas of self improvement and necessity for self improvement
   d. Opportunity for expanding growth potential

2. The experience should be financially rewarding.

   Factors to be considered:
   a. Amount of hourly or weekly pay
   b. Necessary expenses to become employed (automobile, union dues, etc.)
   c. Opportunity for secondary employment and overtime
   d. Living costs

3. The work should be in a suitable environment.

   Factors to be considered:
   a. Proximity to parents, relatives and friends
   b. Pleasant people with which to be associated
   c. Acceptable work facilities
   d. Possibility of safety hazards

4. There should be a general understanding of the work required.

   Factors to be considered:
   a. Area of responsibility
   b. Development of authority
   c. Recognition of products and standards
   d. Understanding abnormal situations

5. The contact with work personnel should be meaningful.

   Factors to be considered:
   a. Understanding both direct line authority and staff function authority
   b. Relationships with other employees
   c. Acceptance of authority

6. There should be some variation in the work stations.

   Factors to be considered:
   a. Time required to become familiar with each work station
   b. Skill development needed for each task
   c. Opportunity for self expression

7. The opportunity to learn business ethics.

   Factors to be considered:
   a. Rules and regulations of the business
   b. Policy formation
   c. Role of trade unions

The key to providing maximum learning through occupational experience programs is cooperative planning between students, teachers, employers and parents. Through cooperation all viewpoints are respected and mutually adjusted to the satisfaction of all parties concerned.

Students frequently throw themselves wholeheartedly into any project if they themselves have participated in the selection and planning of the enterprise. Genuine participation has been found to increase motivation, adaptability and spread of learning.

It is the responsibility of the teacher to utilize student interest, and needs in productive learning activity.

In addition to preparing students for occupational experiences, teachers should familiarize employers who are to provide on-the-job instruction with teaching methods that will maximize occupational training. A recent distributive education publication provides the following guidelines.[1]

"The teacher-coordinator should acquaint the employer with the role he is to play as a job-training instructor. He should explain it somewhat like this:

A. First Steps

The student should be oriented on the job as quickly as possible. It is to your advantage to assist this young worker develop into a happy and efficient worker for you.

Remember how you felt when you were new on the job and approach the student's problems with a sympathetic and understanding attitude.

Such things as these will help get the student off to a better start and prevent misunderstandings:

1. Introduce him to all employees with an explanation of his status.
2. Give him information about company policies.
3. Tell him whom to see for help.
4. Show him around to get an overall picture of the business.
5. Inform him about hours.
6. Go over his immediate duties.

B. Teaching a Job

There are many jobs that the student cannot learn without instruction. Experience has shown the old "sink or swim" method is too expensive. These steps in training a worker to do a job have been successful.

Step 1. Prepare the worker.
Put the learner at ease.
State specific job.
Find out what he knows about job.
Develop interest in learner's job.
Place in correct position.

Step 2. Present the job.
Tell - show - demonstrate.
Present one step at a time: clearly, patiently, and in correct learning sequence.
Present no more than learner can master.

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[1] 1966 D.E. Coordinator's Guide, Connecticut State Department of Education; Hartford, Connecticut, 1966.

Step 3. Try out.
Have learner do job - correct errors.
Have him repeat and explain steps and key points.
Question him - why - what - how.
Continue until you know he knows.

Step 4. Check results.
Put him on his own.
Tell him where to go for help.
Check on understanding and performance.
Correct errors - re-teach.
Taper off coaching to normal supervision.

NOTE: Coordinator may wish to have this information reproduced and placed in the hands of training sponsors.

C. Training Materials Which Should Be Shown to Employers

1. Group discussion lesson topics.
2. Individual manuals being used in class to train his employee.
3. Current individual project work being done by employer's trainee.
4. Interesting work being done by some outstanding student which might set a pattern for work to be done by his trainee.
5. Books of specific nature which will be of interest to an employer.
6. Training films which might be of interest to an employer.
7. Trade journal articles which contain ideas of interest to management.
8. Training materials secured from producers, manufacturers and wholesalers.
9. Examples of student test papers and examinations.
10. His trainee's notebook which contains all assignments prepared for the individualized study period.
11. Pictures of the Distributive Education class in session.
12. Action pictures of individual Distributive Education students on various training jobs in the community."

CHAPTER IV

INTERPERSONAL RELATIONS AND COMMUNICATIONS IN FOOD HANDLING AND DISTRIBUTION

(A Suggested Course Outline)

Introduction:

Robert Falk in Your High School Record, Does it Count, states that, "most people lose their jobs in business not because of not knowing, but because of some social attitudes or temperment factor that interferes with either their happiness or the smooth working of the group of which they are members."[1] Connecticut grocery store personnel collaborated this finding in a recent survey. When asked what major factors contributed to successful entry and advancement, the great majority indicated "getting along with people, be they customers, co-workers, or supervisors." These same grocery store personnel also felt that emphasis upon interpersonal relations with curriculum was highly desirable.

Objectives:

The objectives of Interpersonal Relations Training are basically twofold. First, to assist students in gaining insight into and appraising his own and other's attitudes, aptitudes, interests and motivations in terms of potential employment and advancement in food handling and distribution. Second, to develop good working relationships with supervisors, co-workers, customers, and others in the community.

In addition to these objectives, post high school curricula should include training in management processes related to personnel. Higher levels of education and training should prepare graduates to assume greater management or supervisory responsibilities. Success of food store operations depends largely upon the extent to which employee attitudes and abilities are effective agents in achieving company goals and individual aspirations. Management is responsible for creating a working environment that effects positive and desirable employee rapport.

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[1] Falk, Robert. Your High School Record, Does it Count. South Dakota Press, 1958, Page 6.

Major Division I: Nature of Food Handling and Distribution Occupations

Units of Instruction

A. Food Handling and Distribution Career Information

1. Employment Agencies
2. Dictionary of Occupational Titles
3. Library (School, Public)
4. Friends
5. Referrals
6. Vocational Films
7. Government, State and Local Bulletins

B. Occupational Briefs

1. Basic Qualifications
2. Work with People, Data, Things
3. Hours and Earnings, Working Conditions, Employee Benefits
4. Education and Experience Requirements
5. Entry and Advancement Opportunities

C. Activities

1. Interview selected food industry workers and write a description of their job.

2. Have food industry or employment office representatives talk with students relative to entrance and advancement requirements for food industry occupations.

3. Have students discuss how such factors as past experience (school and work) and attitudes might limit or improve employment opportunities.

D. References

Blume, George T. Career Exploration, Unit I, Exploring Opportunities, Circular 864, Virginia Polytechnic Institute, Agricultural Extension Service, Blacksburg, Virginia, 1962.

Choosing Your Occupation, The Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., 1962.

Ducan, Clyde H. Find a Career in Agriculture, G. P. Putnam's Sons, New York, New York, 1961.

Hemp, Paul E. and Krebs, Alfred H. A Study Guide for Placement--Employment Programs in Agricultural Business and Industry, The Interstate Printers & Publishers, Danville, Illinois, 1963.

Major Division II: Personality: Self-Evaluation and Development

Units of Instruction

A. Human Behavior

1. Adjustive and goal directed
2. Hierarchy of physiological and psychological needs
3. Emotions, ego, attitudes, needs and interests -- direct behavior
4. Barriers to transmission or receiving of interpersonal communications

    a. Language
    b. Role behavior
    c. Anxieties
    d. Defensive and offensive mechanisms

5. Techniques of communication
6. Changing attitudes

B. Self-Evaluation of Personality

1. Definition
2. Personality data sheet

    a. Physical characteristics
    b. Mental traits (accuracy, intelligence)
    c. Social traits (courtesy, tolerance)
    d. Character traits (loyalty, responsibility)
    e. Other (knowledge of work)

3. Self-rating scale
4. Employer evaluation report of the employee

C. Suggested Activities:

1. Obtain examples of rating scales used in industry, and examine with students for personality factors.

2. Administer a self-rating personality test to students.

3. Write a description of a "successful" person, listing those factors that are seemingly effective agents of success.

4. Discuss whether occupation X seems appropriate for student Y. Correlate occupational briefs with test information from students records and personal experiences.

5. Ask students to identify and (perhaps) discuss those elements in themselves they want to change.

6. Conduct sample sales sessions in class. Tape record or televise sessions so that students can hear and see themselves. Compare with model behavior.

D. References

Aptitude Tests for Occupations and an Occupational Interest Inventory, California Test Bureau, New Cumberland, Pennsylvania, 1956.

Howe, Revel L. The Miracle of Dialogue, Seabury Press, Greenwich, Connecticut, 1963.

Human Relations in Agricultural Occupations: Modules 1-12, The Center for Research and Leadership Development in Vocational and Technical Education, Ohio State University, Columbus, Ohio, 1965.

Kuder Preference Record, Science Research Associates Inc., Chicago, Illinois, 1954.

Wilson, Howard. Living With Yourself, Administrative Research Associates, Deerfield, Illinois, 1962.

Wilson, Howard. Understanding People, Administrative Research Associates, Deerfield, Illinois, 1962.

Major Division III: Employee Relationships with Customers, Employer, Co-Workers: Getting Along on the Job

Units of Instruction

A. Occupational Relationships of Employers, Co-workers, and Customers relative to the following concepts:

1. Loyalty
2. Initiative
3. Interest
4. Punctuality - dependability
5. Willingness to learn
6. Courtesy
7. Politeness
8. Empathic to needs of others
9. Respect for authority
10. Efficient work habits on-the-job
11. Morale
12. Appreciation of contribution of others
13. Cooperation - plan and work together
14. Neatness
15. Mutuality of interests

B. Suggested Activities:

1. Have students interview store personnel, asking them the following:

   a. What does your favorite salesperson do that makes you rate him or her so highly?

   b. What do others do that makes you rate them low?

   Tabulate and compare.

2. Utilize cases reported by employed students and others. Incidents may be acted out and recommended course of action discussed.

3. Have students discuss the meanings and implications of the following statement: "Spoil Your Customer — She'll be Less Perishable." (Source: Progressive Grocer, December 1966.)

4. Discuss factors that might limit or enhance one's ability to get along on-the-job — e.g. Respect for authority.

C. References

Albig, William. Modern Public Opinion, McGraw-Hill, New York, 1956.

Bryan, Harold M. Guidance in Agricultural Education, Interstate Press, Danville, Illinois, 1958.

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McLarney, William J. Management Training, Cases and Principles, Richard D. Irwin Inc., Homewood, Illinois, 1959.

Robinson, E. F. Retail Personnel Relations, McGraw-Hill, New York, 1949.

Serif, Neal (editor). How to Manage Yourself, Volume 1, Cities Service Oil Company, Business Research and Education Division, New York, 1961.

Self Study Programs in Retail Food Store Operations, Quaker Oats Company, Chicago, Illinois, 1965.

Walters, R. G. and Wingate, John W. Fundamentals of Selling, 5th edition, South-Western Publishing Company, Cincinnati, Ohio, 1948.

Walters, R. G., Wingate, John W., and Weiner, J. Dana. Retail Merchandising, 4th edition, South-Western Publishing Company, Cincinnati, Ohio, 1951.

Wilhelms, Fred T. Consumer Living, Gregg Publishing Company, Chicago, Illinois, 1951.

Winat, Lloyd. Give the Lady What She Wants, Rand-McNally, Chicago, Illinois, 1952.

Zadronzy, John T. Dictionary of Social Sciences, Public Affairs Press, Washington, D. C., 1959.

Major Division IV: Securing Employment in Food Handling and Distribution

Units of Instruction

A. The Application

1. Store application blank
2. Letter of application

B. The Interview

1. Preparation: What Employers look for during the interviews?
    - a. Interest in employer's job
    - b. Physical appearance
    - c. Ability to communicate
    - d. Energy and Enthusiasm
    - e. Aggressiveness
    - f. Mental Maturity
    - g. Poise
    - h. Extroversion
    - i. Leadership Qualities
    - j. Scholarship
    - k. Voice
2. Grooming and dress — personal appearance
3. Autobiographical Sketch
4. Conduct
    - a. Opening the interview
    - b. Answering questions
    - c. Asking questions
    - d. Culminating interview; departure

C. Revisiting Employer

D. Suggested Activities:

1. Examine complete application for employment forms. Discuss reasons why such information is requested of applicants.

2. Conduct trial interviews in class. Discuss what employers and interviewers should look for during an interview.

3. Prepare a letter of application for employment. (Students presently enrolled in occupational experience programs can serve as valuable resource persons.)

E. References

Blume, George T. Career Exploration, Unit II, Steps Towards the Working World, Circular 864. Virginia Polytechnic Institute, Agricultural Extension Service, Blacksberg, Virginia, 1962.

Bushler, E. C. and Maloney, Martin. You Sell With Your Voice, The Ronald Press Company, New York, 1939.

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Richert, G. H., Meyer, W. G., and Haines, P. G. Retailing Principles and Practices, 4th edition, McGraw-Hill, New York, 1962.

Weyant, J. Thomas, Hoover, Norman K., and McClay, David R. An Introduction to Agricultural Business and Industry, Interstate Printers & Publishers, Danville, Illinois, 1965.

Wheeler, Elmer. How to Sell Yourself to Others, Prentice Hall, New York, 1947.

Major Division V: *Organization Structure of a Business and its Effect Upon Interpersonal Relations*

Units of Instruction

A. Types of Organization Structure

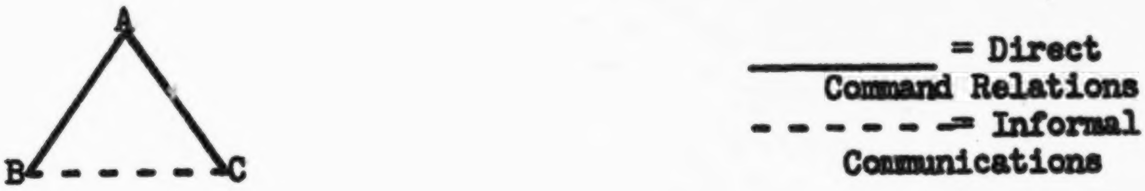
1. Line
2. Staff
3. Function
4. Committee

B. Organization Structure and Communications

1. Employer and Employee Duties and Relationships
    a. Direct command relations
    b. Informal communications
2. Human Resource Utilization
    a. Division of labor and integration of functions
    b. Superior-subordinate relationships

C. Suggested Activities

1. Present the following diagram and ask the class to compare the relationships between Employee A and B with those between B and C.



2. Have students discuss the organization structure of food stores in the area. Emphasize implications relative to interpersonal relations on-the-job.
3. Discuss the following: Is there a relationship between superior-subordinate relationships and division of labor?

D. References

Albig, William. *Modern Public Opinion*, McGraw-Hill, New York, 1956.

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Schram, Wilbur. *The Process and Effects of Mass Communication*, University of Illinois Press, Urbana, Illinois, 1959.

Human Relations in Agricultural Occupations: *Modules 1-12*, The Center for Research and Leadership Development in Vocational and Technical Education, Ohio State University, Columbus, Ohio, 1965.

Major Division VI: Management or Supervisory Responsibilities Related to Personnel

Units of Instruction

A. Personal qualifications for management or supervisory responsibilities

B. Essentials of good employer-employee relations

1. Recognize importance of each individual
2. Recognize mutuality of interests between employers and employees; plan and work together
3. Provide job satisfaction

C. Employee Selection

(Unique personality and potentialities of people)
Enthusiasm and Energy
Ability to Communicate
Maturity
Attitudes, Feelings, Temperment
Self Confidence
Aggressiveness (in a business sense)
Leadership Qualities

D. Employee Placement

1. Food Handling and Distribution job specifications and requirements (Activity analysis)
2. Matching employee personality and potentialities with job requirements.

E. Employee Training

1. Determination of food handling and distribution operations training objectives.
2. Design and administration of training programs
   (Types)
   a. On-the-job training
   b. Training conferences
   c. Company training schools
   d. Training in public schools
   e. In-service training
3. Evaluation of program success in terms of stated objectives
   a. Increased productivity
   b. Reduction in breakage
   c. Reduced labor turnover and absenteeism
   d. Increased number of personnel meeting standards

F. Employee-Attitude Survey

1. Attitudinal Areas
   a. Employer-Employee
   b. Manager-Employee
   c. Job-Employee
   d. Customer-Employee

2. Appraising Employee Feeling and Temperment
   a. Questionnaire
      (1) Content
      (2) Types
      (3) Administration of Questionnaire
      (4) Analysis of Results
      (5) Application of Findings
   b. Interview
   c. Others
      (1) Daily contacts
      (2) Suggestion boxes
3. Surveys to determine
   a. Willingness to work
   b. Feeling of unity
   c. Cooperative management and labor relations
   d. Job satisfaction and morale
   e. Receptiveness to certain personnel policies

G. Handling Complaints and Grievances

H. Counseling on Personal Problems

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CHAPTER V

OCCUPATIONAL REFERENCE

Food handling and distribution is broad in scope, complex in nature, yet fundamental in social position in service to mankind. This trade which is among the oldest of all trades is saddled with tradition that frequently becomes detrimental to modern needs and training programs. This curriculum guide is intended to establish what vocational skills are needed and how these can be accomplished in the modern educational institution. While it is recognized that educational institutions vary considerably from one area to another most of the training principles apply throughout all areas. Inadequate facilities and teachers not familiar to the subject area may be the biggest drawback to establishing teaching programs in food distribution. The use of this guide should enable administrators and key teachers to phase into a food distribution curriculum either as a separate entity or as a division of another vocational program such as vocational agriculture or distributive education.

Several studies have been conducted regarding the marketing, pricing, merchandising and commodity areas of the food store. These are helpful in providing the basic background information on existing training programs and the problems these face in providing sufficient numbers of personnel to fill the many cover positions in the industry. One of the more notable among the recent studies is the McKinsey General Foods Study.[1] Of significance in this report is the emphasis that food retailing today is in a new era. It has passed from periods of tradition and easy prosperity to a time of fierce competition. The food industry is showing signs of maturity through a slowdown in growth, rising wage rates, improved working conditions, and lower profits. It is also subject to major organizational changes yielding greater flexibility to respond to local competitive situations plus greater efficiency in operation. Personnel skills become more sophisticated and demanding to respond to customer appeals for improved products, convenience and service. This action oriented business has a challenge to meet in personnel training and skill development. Realistic immediate and long range goals can be achieved by understanding the fundamental unit operations of the grocery business and applying this knowledge through vocational institutions equipped to stimulate and train interested students in a food career.

The two major changes in food retailing over the past 20 years are the rise of the supermarket and the gain in the share of business done by affiliated independents. Grocery stores doing $500,000 or more business per year accounted for only 2 percent of the total number of store fifteen years ago, but made 26 percent of the sales. In 1962, "supers" comprised 12 percent of the number and did 72 percent of the business. The biggest chains have not increased their share of total grocery sales whereas smaller chains have grown and the total chainstore share has risen moderately. Affiliated stores have grown rapidly with their share of the total grocery business rising from 29 percent in 1948 to 49 percent in 1962. Since 1953, the affiliated groups have accounted for a larger share of total grocery sales than the ownership chains. Unaffiliated independents have declined in their share of grocery sales. They have dropped from 34 percent in 1948 to 10 percent in 1962.[2]

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[1] McKinsey General Foods Study, McKinsey and Company, Inc., Washington, D. C., 1963.

[2] Grocery Business Annual Report, Progressive Grocer, New York, 1964.

"Average straight-time earnings were $1.73 an hour for approximately 1.3 million nonsupervisory retail food store workers covered by the Bureau of Labor Statistics survey in June 1962. A tenth of the workers earned less than $1 an hour and another tenth were concentrated at or just above $1 an hour. More than three-tenths of the workers earned less than $1.25, about the same proportion as those who earned $2 or more an hour. During the survey week, more than a third of the employees worked less than 35 hours, about a fourth worked 40 hours, and approximately a fifth more than 44 hours. Weekly earnings averaged $61.22 and ranged from $13.27 for employees who worked less than 15 hours to $83.90 for those who worked exactly 40 hours a week.

Among the four broad geographic regions of the United States average pay levels ranged from $1.35 in the South to $2.24 in the West. Men averaged $1.84 an hour, 32 cents an hour more than women. Metropolitan area workers averaged $1.86 an hour, compared with $1.41 an hour for nonmetropolitan area workers. Workers in establishments which, for the most part, were subject to the Fair Labor Standards Act averaged $1.96 an hour, 56 cents more than those in nonsubject establishments.

More than four-fifths of the food store workers were employed in grocery stores, where they averaged $1.75 an hour. The distribution of grocery store workers' individual earnings, as well as their hours of work, generally paralleled those for all food store workers.

A June 1962 survey showed a 6-cents-an-hour increase in the average earnings of food store employees since a similar survey conducted 1 year earlier. Changes in the distribution of earnings occurred primarily at the lower pay levels, mostly in response to the enactment of the $1 Federal minimum wage, which became effective on September 3, 1961, for most employees in large retail enterprises."[1]

In a Supermarket Institute report[2] a survey showed that 88 percent of supermarket personnel are employed in stores and 12 percent in other functions. These figures were variable depending upon the company size — from 3 percent in the smallest companies to 14 percent in larger companies. Part-time employees constituted 48 percent of all store personnel. This survey pointed out a lack of sufficient training and development among part-time help as well as a problem in recruitment of full-time employees.

Unit Operations

An understanding of supermarkets and their functions centers around key operational people. Direct line positions include the store manager, assistant manager, front end man (who frequently is the assistant manager) and heads of the commodity groups — grocery, meat, produce, frozen foods, dairy and delicatessen. Staff positions backing up these prime people are corporate administrators, supervisors, accountants, advertising and promotion specialists, and food brokers. Wholesale suppliers, manufacturers representatives and producers are classed in the line function but are discussed separately from store personnel as they have their own unit operations and specializations.

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[1] Employee Earnings in Retail Food Stores, Bulletin 1380-3, United States Department of Labor, Washington, D. C., 1962.

[2] Facts About New Super Markets Opened in 1965, Super Market Institute, Inc., Chicago, Illinois, 1966.

Manager: The store manager must have direct control and responsibility over the entire store and its personnel. His ability and success in doing this is most readily measured by sales volume, profits and growth. However all of these factors have many influencing forces from both inside and outside the store, not all of which are controllable by the manager. His challenge is to make the best use of the opportunity potential that exists. His training must be fundamental in understanding people and food, yet applied to the ever changing store needs. Large stores doing several million dollars worth of business each year will seek four-year college graduates as managers to shoulder the responsibility. Their training will be business marketing and socially oriented. Stores of this large size have specialists and consultants to draw upon when unique problems arise that are beyond the managers training and experience. Their burden of leadership is usually shared among several well trained persons. The average retail food store having total annual sales slightly over $1 million and employing 20 to 30 full-time and part-time persons does not have educated talent among his employees with which he can share leadership. Responsibility can be delegated only to the extent that employees can receive it. Thus understanding his employees and their ability is of prime importance to the manager. His own training must accomplish this. The manager also has superiors to which he must report regularly. His expressions and demonstrated success influence his chances of becoming one of these superiors. Customers are also his responsibility. The store caters to customer's desires. They must be satisfied with their purchases or they will shop elsewhere. These elements all point to training needs in communication skills, personnel relations, sociology and psychology.

The store manager must also understand commodities he sells. He deals with several thousand items. How can he know something about each? The answer lies in learning the principles of goods in each classification. Dry goods sales fall under general marketing and retailing principles. Foods are perishable and their handling cannot be considered the same as dry goods. Food is necessary to sustain life. The customer meets this need by shopping in the food store one or more times each week. Low quality or spoiled food drives customers away from the store. Spoiled food has the potential of creating ill health and even death. Prevention of this is an absolute necessity. The training of the store manager must include a basic knowledge of food, the identification of quality, an understanding of how perishable each food group is and how shelf life can be lengthened, the recognition and elimination of spoiled foods, and a knowledge of different brands and varieties which he carries in the store. A knowledge of sanitation is also required.

The store manager is a businessman. He and his store are subject to the laws and regulations of the business world. The store is obligated to earn a profit in a legal and moral manner. In our capitalistic society there are competition, standards and business ethics that guide the manager in his leadership and decision making. His training must include marketing skills, government, accounting, merchandising, and business management. His personal experience in working up to the management position is important with each of these aspects. A person should not go directly from school into a management position. Experience must be gained in working with people, commodities and the community. Preferably this experience should be varied to include the several store departments and the opportunity to supervise people. The assistant manager's position is an excellent experience step prior to moving up to manager.

Assistant Manager and Front End Man: The assistant manager assumes responsibility for all store operations in the absence of the store manager. He may double as a commodity group head or as front end man in charge of the check-out register area. The cash transactions for the entire store are the responsibility of the front end man. In addition to check cashing, he performs a public relations function. This part of the store is the main image builder. Personnel checking out and bagging purchased items frequently are the only direct seller to buyer contacts in the entire supermarket.

The training needed for a front end position centers around courtesy, friendliness and work accuracy. Baggers and car service boys need only to be indoctrinated regarding store policy and a demonstration of their duties. Checkers need to experience themselves in cash register operation and should be tested on their accuracy. The front end manager needs to be skilled in the duties of those he supervises and must in addition have training background in personnel relations, accounting, sociology, and psychology. He must be aware of methods and precautions that prevent shoplifting, customer price changing and hidden merchandise. Alertness to the sales area and customer needs is paramount. Control of front end and parking lot employees is a responsible position. Training for it needs to be both managerial and public service oriented.

Head, Grocery Department: Responsibility for planning, organizing, and supervising the grocery department is the responsibility of the grocery head. This department handles approximately two-thirds of the several thousand different items the store carries. Thus inventory control is of major importance. Product turnover in the grocery department is approximately 20 times a year which reflect the longer shelf life of its goods. Training and experience in inventory control and stock rotation. Shelf stock consists largely of brand name items. Space is very competitive and must be allocated to each item with care. The sizes handled, number of competitive brands and price control are controlled by the manager. His training must include these merchandising skills which improve sales performance. He should also be cognizant of sanitation standards, store traffic control and methods of preventing pilferage.

Head, Produce Department: Produce commodities may be grouped into five different categories -- staple vegetables, cooking vegetables, salad items, staple fruits, and seasonal fruits. High demand type items and high impulse items should be distributed among items having lower demand rates. Normally fruits are kept separate from vegetables.

The produce manager is a part of the store's management team. He supervises stock clerks and preparation room personnel handling produce. He is responsible for ordering, pricing and displaying all produce. He should have training in inventory control, customer relations, employee relations and overall department planning. He must also have a fundamental background in the post harvest physiology of fruits and vegetables. The seasonality of these commodities greatly influence their availability, price, and freshness. The manager must be knowledgeable of these characteristics for each item. Training must include variety identification, storage control, trimming and reconditioning, and merchandising methods for produce items. The survey indicated that with some basic studies in these areas, the produce man can become skilled in this commodity group after a few months experience.

Most larger stores assign an assistant produce manager to aid in responsibility and supervision. Responsibility can be divided between the customer area and the preparation room.

Preparation room personnel are responsible for weighing, pricing, packaging and labeling produce in the preparation area. They must serve as part of the produce team in providing customer service.

Head, Meat Department: Meat is usually considered the most important part of the meal. Other foods compliment it in the diet. It also is the most expensive portion of the meal. Meat forms the basis for distinction with consumers in both meal preparation and buying habits. The store image is frequently achieved at the meat counter through the quality handled, display methods and pricing habits. The manager must be a skilled meat cutter. He must achieve high yields, make attractive packages, and have effective usage of by-products. His training must include a thorough knowledge of meat grades, the alternative cuts of meats, care and treatment of meat, and preparation of unusual cuts. This skilled trade is achieved mainly through experience. However the secondary school can provide the fundamentals of USDA grades, usual cuts and common merchandising methods. Post high school training is effective in developing skills in slaughtering, trimming and other preparations that are basic to the trade. Knowledge of sanitation, packaging and government regulations are also important.

Bakery Department: The bakery department may have only prepackaged items baked by a supplier or an in-store bakery in addition to supplier items. Supplier items require little store management or personnel time as they may be handled entirely as self service items. Baked goods may be located either at the beginning of the traffic flow or near the end of it. It depends heavily on impulse buying.

Personnel in the baked goods department where all stock is supplied need little formal training. One clerk may be in charge of this area plus frozen foods or the dairy area. He is responsible for orderly displays and stock rotation. Ordering and control is normally the responsibility of the grocery head.

The on-premise bakery must have a skilled baker. His training can be accomplished in a formal bakers school supplemented by institutional or commercial baking experience. Clerks and helpers can learn their required skills with proper supervision on the job. However those with career interests need to obtain training in baking technology, customer service, sanitation, merchandising and marketing methods.

Dairy and Frozen Foods Manager: In many cases only one person is required to handle both the dairy and the frozen food department. If more than one are needed, stock clerks can assist. The manager is responsible for coordinating the activities of product ordering, receiving, pricing, displaying, and stock rotation. Space allocations, case layout and cleanliness are also important in the planning and controlling of these areas. The manager must be trained in merchandising methods and sanitation. He must know quality standards and be able to identify spoiled merchandise. For large stores he must be able to supervise one or more clerks thus some personnel training is needed. His responsibility in controlling and directing suppliers and salesmen also indicate training needs in personnel relations.

Food Brokers: Food brokers have had an active role in the food distribution industry for over 100 years. The modern broker is a complete company of trained salesmen working under the personal direction of the owner or manager. Although he is an independent local agency, he represents food manufacturers and performs a sales function for them. The broker may act as agent for several principals (food manufacturers) and he maintains a close and confidential relationship with each. He normally does not handle competing products. The broker does not categorize himself as a middleman in that he does not buy and sell goods. He is rather a sales expediter in the flow of goods from manufacturer to the wholesaler or retailer and receives a commission but does not take title to any goods. The training needed to become a food broker is principally in the marketing, business and public relations area. In addition he must know his product and product area. Thus he must have fundamental food training plus merchandising and related subjects. Post secondary training needs tend to fall in both business and liberal arts categories.

Wholesale Suppliers and Delivery Men: Functions of personnel in the wholesale food industry are similar to those of the retail industry with regard to their training needs. The major differences are in volume of products handled and that sales are to a few large specialized customers rather than to the general public. Therefore, knowledge of the product and its correct handling procedures during storage and transportation are essential. Wholesalers deal directly with food brokers and manufacturers. Wholesale product categories are usually the same as in the retail store i.e. grocery, meat, produce, bakery, beverage etc.—each having its own manager and clerks. Training needs for each of these is essentially the same as for the respective categories in the retail food store. However on the job activity places more emphasis on inventory control, price margins and cost reduction with less emphasis on case display and public relations. Both secondary and post secondary training should be broad enough that graduates are qualified for either wholesale or retail store positions.

Delivery men may not need merchandising qualifications if they do not perform a sales function. On the other hand, if the delivery man is charged with order taking, displaying and advertising aids as he frequently is with dairy products, eggs and baked goods then he must be knowledgeable of these products and their merchandising techniques.

Accounting, Legal and Advertising Men: These three categories are considered a professional nature and serve in a staff relationship to the store personnel. Their training is precise to the profession and does not fall into the vocational category covered by this curriculum guide.

Training Aids

The following lists of movies, slides, books and bulletins provide a resource list from which the teacher can select reference material. This listing is not complete and new material is continually being made available. More detailed descriptions of the audio visual material are available directly from the source.

AUDIO VISUAL AIDS
MOVIES

TITLE	BRIEF DESCRIPTION	PRICE	SOURCE
"On-Premise Bakeries"	30 minute color, depicts important factors of initiating and managing on-premise bakery.	Rental (two weeks) $25.00 Purchase $250.00	National Assn. of Retail Grocers, Chicago, Illinois
"Retail Bake-Off"	19 minute 16mm color, gives details of bake-off operation in supermarkets.	Purchase $150.00	National Assn. of Retail Grocers, Chicago, Illinois
"Management Guide for the Dairy Department"	25 minute 16 mm color, in retail dairy merchandising.	Rental (two weeks) $25.00 Purchase $250.00	National Assn. of Retail Grocers, Chicago, Illinois.
"The Store of Distributive Education"	18 minute color, vocational education program designed to train boys and girls for a career in Marketing and Merchandising.	Free	Association Films Inc. Ridgefield, New Jersey
"Getting Along with Others"	29 minute Black & White discusses ways of getting along with people.	Rental: $10-20	Business Education Films Brooklyn, New York
"Jackson's Tree"	15 minute color, for recruiting young employees to careers in the food business.	User pays return postage	General Mills, Inc. Minneapolis, Minn.
"The Marvelous Mousetrap"	24 minute color, Stars Wally Cox in a lesson that it is important to each employee for his company to have continuity.	Rental: $45.00 Purchase: $275.00	Bureau of National Affairs Inc., Washington, D.C.
"The Pursuit of Profit"	25 minute color, demonstrates to supermarket employees the importance of profits.	Free Loan Purchase: $75.00	The Proctor & Gamble Distribution Company Cincinnati, Ohio

TITLE	BRIEF DESCRIPTION	PRICE	SOURCE
"Employment Interview"	11 minute black & white, shows the importance of the employment interview in getting the right man on the job.	Rental: $10-20	Business Education Films Brooklyn, New York
"Communications"	12 minute black & white, shows the need for effective communication in industry.	Rental: $10-20	Business Education Films Brooklyn, New York
"Five Keys"	20 minute black & white, describes five keys for effective supervision.	Rental: $10-20	Business Education Films Brooklyn, New York
"The Shape & the Future"	20 minute 16mm color sound is a multi-purpose film serving a number of curriculum areas.	User pays return postage	Modern Talking Picture Service, Inc. New York, New York
"Food for the Space Travelers"	Black & White	User pays return postage	National Aeronautics and Space Administration Washington, D. C.
"Tomorrow's Products from Today's Research"	17 minute color, new uses for by-products, tenderization of meat, dehydration and irradiation of food-stuffs.		Farm Film Foundation Washington, D. C.
"A Better Life for all Mankind"	30 minutes, 16 mm motion picture, color, sound.	User pays return postage	General Mills, Inc. Minneapolis, Minn.
"Markets in Motion"		User pays return postage	Pillsbury Company Minneapolis, Minn.
"A Better Way"		User pays return postage	Pillsbury Company Minneapolis, Minn.

TITLE	BRIEF DESCRIPTION	PRICE	SOURCE
"The Chocolate Tree"	27 minute 16mm sound motion picture. This is the story of cocoa and chocolate products.	User pays return postage	Modern Talking Pictures Service, Inc. New York, New York
"Focus on Food"	26 minute 16mm sound print, camera trip around the world.	User pays return postage	H. J. Heinz Company Pittsburgh, Pa.
"Something to Crow About"			Campbell Soup Company Camden, New Jersey
"Putting Ideas to Work in Machinery"	29 minute 16mm sound. The film is designed to acquaint audiences with the diversified products manufactured by FMC's machinery divisions.	User pays return postage	FMC Corporation San Jose, California
"The Miracle of the Can"	30 minute 16mm sound color film. Production and preparation of foods for canning and the manufacture of cans.	User pays return postage	The American Can Company Newark, New Jersey
"Space Feeding--Beyond the Gravisphere"	14½ minute 16mm sound color, research being done to develop foods for the space traveler.	User pays return postage	Armour and Company Chicago, Illinois
"Fresh Frosted Meats for the Food Service Industry"	24 minute 16mm sound color, outlines advantages of fresh frosted meats to hotels, restaurants, institutions.	User pays return postage	Armour and Company Chicago, Illinois
"Yesterday, Today and Tomorrow"	16mm sound film.	User pays return postage	H. J. Heinz Company Pittsburgh, Pa.
"Ever Since Eden"	16mm sound film.	User pays return postage	H. J. Heinz Company Pittsburgh, Pa.
"Milk for the City"	Traces the milk from the farmer to the consumer.	User pays return postage	Modern Talking Picture Service Inc. Boston, Massachusetts

The following movies are available through Super Market Institute, Inc., Chicago, Illinois:

TITLE	PRICE
"Nuts to You"	Rental: $20.00
"The Pacesetter in Aisle No. 3"	Rental: $20.00
"A Storeful of Ideas"	Rental: $20.00
"Million Dollar Pantry"	Rental: $20.00
"The Front Line"	Rental: $20.00
"The Shoplifter"	Rental: $20.00
"People and Supermarkets Today: How People Shop for Food"	Rental: $20.00
"Project 5118: Communications"	Rental: $20.00
"The Eye of the Beholder"	Rental: $20.00
"Doing What Comes Natcherly"	Rental: $20.00
"Handling Fruits and Vegetables in Warehouses"	Rental: $20.00
"Tips on Handling Frozen Foods"	Rental: $20.00
"Grocery Tray-Stocking Methods"	Rental: $20.00
"Produce Handling"	Rental: $20.00
"Receiving, Blocking, and Cutting Meat"	Rental: $20.00
"Miracle Market"	Rental: $20.00
"Work Simplification"	Rental: $20.00

AUDIO VISUAL AIDS
SLIDES

TITLE	BRIEF DESCRIPTION	PRICE	SOURCE
"Food Viewpoint Presentation"	Marketing values of glass packaging from the standpoint of the consumer, retailer, and manufacturer.	User pays return postage	Owens-Illinois Toledo, Ohio
"Quality Control I--Produce Temperature and Moisture"	An aid to training produce department personnel.	Purchase: $35.00	Super Market Institute Chicago, Illinois
"Commodity Series I--Lettuce"	40 color slides explaining the lettuce story from farm to market.	Purchase: $35.00	Super Market Institute Chicago, Illinois
"Merchandising Series I--Produce Department Layout and Customer Traffic Patterns"	Explains how customers shop the produce department and layout.	Purchase: $35.00	Super Market Institute Chicago, Illinois
"Produce Sells the Experts"	23 minute color sound-slide film (with record) describes techniques in ordering, receiving, storing, etc.	Rental (two weeks) $10.00 Purchase: $35.00	National Assn. of Retail Grocers Chicago, Illinois
"Profits Through Service"		User pays return postage	National Food Distributors Assn. Chicago, Illinois
"Consumer Beef Education"	Explains beef cuts, difference between cost and retail, etc.	Purchase: $20.00	National Assn. of Retail Grocers Chicago, Illinois
"Pilferage--The Profit Killer"	31 color slide presentation with narration on employee pilferage.	Purchase: $20.00	National Assn. of Retail Grocers Chicago, Illinois

TITLE	BRIEF DESCRIPTION	PRICE	SOURCE
"The Fabulous World of Food"	14 minutes, color.	User pays return postage	Association Films, Inc. Ridgefield, New Jersey
"People, Personnel and Profits"		Rental: $10.00	Super Market Institute Chicago, Illinois
"Meat the Answers"		Rental: $10.00	Super Market Institute
"It's Up to You"		Rental: $10.00	Super Market Institute
"A Chain is as Strong"		Rental: $10.00	Super Market Institute
"Quality—The Measure of Frozen Food Value"		Rental: $10.00	Super Market Institute

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2. *From the Producer to the Consumer*
3. *The Supermarket Today*
4. *Profit and the Supermarket*
5. *The Supermarket Customer*
6. *The Grocery Department*
7. *The Meat Department*
8. *The Produce Department*
9. *The Dairy Department*
10. *The Frozen Foods Department*
11. *The Bakery Department*
12. *The Front End*
13. *Other Departments in the Supermarket*

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TRADE ASSOCIATIONS AND FOUNDATIONS[1]

American Bakers Association
20 North Wacker Drive
Chicago 6, Illinois

American Dairy Association
20 North Wacker Drive
Chicago 6, Illinois

American Management Association
1515 Broadway
New York 36, New York

American Meat Institute
59 East VanBuren Street
Chicago 5, Illinois

Grocery Manufacturers of America, Inc.
205 E. 42nd Street
New York, New York

International Association of Milk
& Food Sanitarians
Blue Ridge Road
Shelbyville, Indiana

National Agricultural Chemicals
Association
1145 19th Street, N. W.
Washington, D. C.

National Association of Food Chains
1725 "I" Street, N. W.
Washington, D. C.

National Association of Frozen Food
Packers
919-18th Street, N. W.
Washington 6, D. C.

National Restaurant Association
1530 North Lake Shore Drive
Chicago 10, Illinois

National Food Service Association
12 North 3rd Street
Columbus 15, Ohio

National Association of Retail
Grocers
360 North Michigan Avenue
Chicago 1, Illinois

National Canners Association
1133-20th Street, N. W.
Washington 6, D. C.

National Dairy Council
111 N. Canal Street
Chicago, Illinois

National Frozen Foods
Association, Inc.
60 E. 42nd Street
New York, New York 10017

National Livestock & Meat
Board
36 South Wabash Avenue
Chicago 3, Illinois

Packaging Institute, Inc.
342 Madison Avenue
New York 17, New York

Super Market Institute, Inc.
500 North Dearborn Street
Chicago, Illinois 60610

United States Wholesale Grocers'
Association
1511 K Street, N. W.
Washington, D. C. 20005

National American Wholesale
Grocers Association, Inc.
60 Hudson Street
New York, New York 10013

Cooperative Food Distributors
of America
140 South Dearborn Street
Chicago, Illinois 60603

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[1] Trade organizations exist for most commodity groups.

SCIENTIFIC AND TECHNICAL SOCIETIES

(Each of these groups publish scientific periodicals in their respective fields.)

American Association of Cereal Chemists, Inc.
1955 University Avenue
St. Paul 4, Minnesota

American Chemical Society
1155 16th Street, N. W.
Washington 6, D. C.

American Medical Association
535 North Dearborn Street
Chicago 10, Illinois

American Public Health Association
1790 Broadway
New York, New York

American Meat Science Association
36 South Wabash Avenue
Chicago 3, Illinois

American Dietetic Association
620 North Michigan Avenue
Chicago, Illinois

Institute of Food Technologists
176 West Adams Street
Chicago 3, Illinois

GOVERNMENT AGENCIES

Bureau of Commercial Fisheries
U.S. Department of Interior
Washington, D. C.

Consumer Marketing Service and Agriculture Research Service
United States Department of Agriculture
Washington 25, D. C.

Business and Defense Administration
United States Department of Commerce
Washington 25, D. C.

Food and Drug Administration
Department of Health, Education, and Welfare
Washington 25, D. C.

A PARTIAL LIST OF CONTACTS IN THE FOOD INDUSTRIES
FOOD HANDLING AND DISTRIBUTION

Retail Food Chain Stores in the Connecticut Area

The Great Atlantic and Pacific Tea Company
530 Atlantic Avenue
P. O. Box 1953
Boston, Massachusetts

Stop & Shop, Incorporated
393 D Street
Boston 10, Massachusetts

First National Stores, Incorporated
5 Middlesex Avenue
Somerville, Massachusetts

Grand Union Company
East Paterson, New Jersey

Popular Markets, Incorporated
59 Napier Street
Springfield, Massachusetts

Mott's Supermarkets, Incorporated
69 Leggett Street
East Hartford, Connecticut

Food Fair, Incorporated
230 S. Stiles Street
Linden, New Jersey

Food Marts, Incorporated
227 South Street
Holyoke, Massachusetts

Independent Wholesale Grocers in Connecticut

Bozzuto's Incorporated
Mr. Richard Bozzuto
Cheshire, Connecticut

Associated Grocers
24 Maple Street
Wethersfield, Connecticut

Gaer Brothers, Incorporated
Rye Street
Windsor, Connecticut

Aljim Wholesale Grocery Company
56 Eagle Street
Waterbury, Connecticut

New London Paper and Supply Company
New London, Connecticut

Springfield Sugar Company
Mr. Julian Levitt
P. O. Box 385
Windsor Locks, Connecticut

Hartford Sugar Company
618 Windsor Street
Hartford, Connecticut

Vogel & Sons
191 Park Avenue
East Hartford, Connecticut

Darwin Company
Norwich, Connecticut

Major Food Processing Companies in Connecticut

Heublein, Incorporated
330 Park Avenue
Hartford, Connecticut

Hartford Provision Company
Belden Avenue
New Britain, Connecticut

H. P. Hood, Incorporated
Suffield, Connecticut

Connecticut Packing Company
335 Cottage Grove Road
Bloomfield, Connecticut

Smith and Fazzina Company
212 Locust Street
Hartford, Connecticut

Armour & Company
100 Market Street
Newington, Connecticut

Canada Dry Corporation
Greenwich, Connecticut

Home Pride Provisions Company
Furnace Hollow Road
Stafford Springs, Connecticut

Hartford Poultry Company
Columbia Road
Willimantic, Connecticut

The Nestle Company
New Milford, Connecticut

LaRosa, Incorporated
Danielson, Connecticut

Mounds Candy
Naugatuck, Connecticut

Pepperidge Farms, Inc.
Norwalk, Connecticut 06850

Standard Brands, Incorporated
Betts Avenue
Stamford, Connecticut

Major Packaging Companies in Connecticut

Knox Glass
Dayville, Connecticut

Valley National Corporation
Milldale, Connecticut

M. Backes, Incorporated
Wallingford, Connecticut

Continental Can Company
Montville, Connecticut
and Portland, Connecticut

Gilman Brothers
Gilman, Connecticut

Commerce Packaging Corporation
Stamford, Connecticut

Monsanto Company
Bloomfield, Connecticut

S. Curtis & Son, Incorporated
Sandy Hook, Connecticut

Emhart Corporation
Bloomfield, Connecticut

APPENDIX

Course Outlines

Food Processing
Frozen Foods
Basic Food Chemistry
Advanced Chemistry of Food Preservation or Processing Course
Meat and Meat Products
Meat Grading and Evaluation
Meat Wholesaling and Retailing
Marketing Poultry
Marketing Eggs
Ornamental Plant Handling and Distribution
Nutrition and Consumer Practices
Quality Evaluation of Food (Chemical)
Evaluation of Food Products (Physical)
City Milk Supply
Vegetable Crop Distribution and Handling
Food Microbiology
Introduction to Animal Science
Botany and Horticulture
Fruit Technology
Agricultural Marketing and Cooperation
Business Management
Sales and Service
Plant and Store Sanitation
Food Packaging
Operational Utilities

Appendix Tables

1. Number of People Indicating Rating Preference for Fundamental Courses
2. Number of People Indicating Rating Preference for Business Courses
3. Number of People Indicating Rating Preferences for Food Courses
4. Number of People Indicating Rating Preference for Social Courses
5. Responsibility Categories and Occupational Titles Code System Applied to Food Distribution

Appendix Figures

6. Total Weighted Average Rating for the Need of Fundamental Courses in Vocational Food Handling and Distribution Curricula
7. Total Weighted Average Rating for the Need of Business Courses in Vocational Food Handling and Distribution Curricula
8. Total Weighted Average Rating for the Need of Food Courses in Vocational Food Handling and Distribution Curricula
9. Total Weighted Average Rating for the Need of Social Courses in Vocational Food Handling and Distribution Curricula
10. Ratings of Fundamental Courses Needed in Food Distribution Curricula
11. Ratings of Business Courses for Food Distribution Curricula
12. Rating of Food Courses Needed for Food Distribution Curricula
13. Ratings of Social Courses Needed for Food Distribution Curricula
14. Flow of Food From Sources to Destination, 1963

School Programs and Courses

Glastonbury High School, Vocational Agriculture Department, Glastonbury, Connecticut
Edward Bok Technical High School, Philadelphia, Pennsylvania
Murrell Dobbins Technical High School, Philadelphia, Pennsylvania
Ratcliffe Hicks School of Agriculture, University of Connecticut, Storrs, Connecticut
Ft. Dodge Community College, Ft. Dodge, Iowa
Agricultural and Technical College at Morrisville, State University of New York, Morrisville, New York
Mt. San Antonio College, Walnut, California
Cornell University, Ithaca, New York
Food Business Institute, University of Delaware, Newark, Delaware
Stockbridge School of Agriculture, University of Massachusetts, Amherst, Massachusetts
St. Joseph's College, Philadelphia, Pennsylvania

FOOD PROCESSING

Unit	Topic
1	Unit Operations and Processes A. Raw materials: (conveying, weighing, storage)
2	B. Processing: (grading, disintegration, separation, mixing and blending, coating and forming, degassing, heat treatment, heat removal, dehydration and drying)
3	The Physical Chemistry of Foods A. Physical properties: (density, refractive index, optical rotation, viscosity and plasticity, surface and interfacial tension)
4	Colloidal Properties of Foods: (classes of colloids, methods of preparation, properties, gels and sols, imbibition, emulsions, foams, other edible emulsions)
5	Food Machines A. Principles of sanitary equipment designing B. Simple equipment: (knives, vats and tanks, tables, trucks and troughs, beaters, shovels, pails, dippers) C. Power equipment: (mixing and blending, cutting and grinding, pumping and grinding, heating and cooling, dehydration)
6	Specific Operations: (filtration, clarification, separation, homogenization and emulsification, coating and enrobing, depositing) A. Electrolytic action of metals on equipment and food B. Maintenance of production rate
7	Food Preservation by Use of Microorganisms A. Food as a source of energy for microorganisms B. Microbial food preferences C. Sugar fermentation D. Other fermentations
8	Factors Influencing the Type of Decomposition: (acidity, type of carbohydrates, moisture, oxygen, structure of material, temperature) A. The preservation action of salt: (poisonous action, moisture unavailable, dehydration, osmotic pressure, selective action on microorganisms)
9	Other Products: (pickles, kraut, vegetables and fruits, dairy products) A. Meat: (spoilage, ripening and tenderization, flavor) B. Salt rising bread and sauerteig
10	Chemical Preservatives A. Definitions B. Classification C. Bacteriostatic, Fungistatic and Germicidal agents

Unit	Topic
11	Chemicals A. Antioxidants B. Neutralizers C. Stabilizers D. Firming agents E. Coatings and wrappings F. Expanded use of chemicals G. Gas storage H. Gas maturation
12	Food Preservation by Temperature Control A. Cool storage of foods: (meats, preserved meats, fish, preserved fish, shellfish, fruits and vegetables, dairy products, eggs, nuts and other miscellaneous foods, wine) B. Freezing preservation of foods: (fish, shellfish, poultry, meats, dairy products, eggs, fruits, fruit juices, vegetables)
13	Heat Penetration and Food Process Calculation Methods A. Heat penetration curves B. Heat penetration equipment C. Heat penetration tests D. Probability of survival of microorganisms E. Criterion of sufficiency of process F. Proximity of residual viable spores G. Concept of thermal death time H. Nature of survival curve
14	The Canning Process A. Preliminary considerations: (the container, equipment and materials used, selection of variety of product to be canned, water supply)
15	Basic Operations in Canning: (preliminary preparation of raw product, blanching, filling, brining or siruping, exhausting, sealing, processing, cooling, casing and warehousing) A. Sanitation and waste disposal
16	Spoilage in Canned Food: (flat sour spoilage, thermophilic gaseous spoilage, sulfide spoilage, putrefactive spoilage, unusual types of spoilage, leakage of the tin or glass container, autosterilization) A. Standards for canned food B. Canned food in relation to health C. Life of canned food D. Home canning E. Fallacies about canned food
17	The Dehydration of Foods A. Dehydration principles B. Drying procedures C. Treatment prior to drying D. Detailed procedures E. Reconstitution and cooking

Unit	Topic
17	F. Nutritive values of dehydrated foods G. Storage H. Biochemical deterioration
18	New Food Processing Methods Part I Freeze Drying of Food Products A. Methods and equipment B. Fundamentals of the drying process C. Application of freeze drying foods
19	Part II Food Preservation by Radiation A. Beta radiation B. Gamma radiation C. Effect of radiation on food D. Problems in radiation
20	Rheology of Foods A. Status of subjective quality assessments and physical tests B. Rheological prototypes and complex properties C. Problems of processing and manufacture: (natural aging processes, imitation tests, indirect empirical tests, fundamental tests) D. Rheological problems in cooking
21	Quality Control in Processing Food Products A. Instrumentation B. Physical chemical methods C. Flavor: (taste, odor, correlated measurements)
22	General Principles: (terminology standardization, specification of the quality factor, human evaluation, measurement control)
23	Appearance Factors: (color and gloss, viscosity and consistency, size and shape, defects) A. Kinesthetics
24	Food Grading: Sanitary and Quality Control A. Sanitary control: (bacteria, mold, insects and rodents, diet, added injurious or deleterious substances) B. Quality control: (quality factors, quality standards)
25	Sanitation Part I Washing Detergency Sanitation and Plant Housekeeping A. Washing and detergency B. Sanitation and plant housekeeping Part II Insect Control: Insecticides and Fungicides

Unit	Topic
26	Food Supervision by Government Agencies A. Federal agencies: (Federal Security Agency, Department of Agriculture, Treasury Department, Department of the Interior, Interstate Commerce Commission, Federal Trade Commission, military food control agencies, emergency war agencies) B. State agencies C. Municipal agencies

FROZEN FOODS

Unit	Topic
1	Introduction
2	Principles of refrigeration
3	Cold storage and freezing plants
4	Quick freezing of foods
5	Quick freezing of foods
6	Changes occurring in frozen foods
7	Changes occurring in frozen foods
8	Hour examination
9	Freezing vegetables
10	Freezing fruits
11	Dehydrofreezing of fruits and vegetables
12	Freezing of meat
13	Freezing of poultry
14	Freezing of eggs
15	Freezing of fish
16	Nutritive value of frozen foods
17	Microbiology of frozen foods
18	Microbiology of frozen foods
19	Sanitation
20	Packaging of frozen foods
21	Hour examination
22	Pre-cooked frozen foods
23	Pre-cooked frozen foods
24	Quality control of frozen foods
25	Quality control of frozen foods
26	Regulations governing the freezing of foods

FROZEN FOODS LABORATORY

Unit	Topic
1	Introduction
2	Slides on frozen foods
3	Retail handling of frozen foods
4	Freezing calculations
5	Blanching and tests for blanching
6	Freezing of fruits and additives needed
7	Freezing of meat
8	Microbiological tests
9	Tests for rancidity
10	Texture of frozen foods
11	Color of frozen foods
12	Packaging problems
13	Tour
14	Quiz

BASIC FOOD CHEMISTRY

Unit	Topic
1	The elements
2	Atoms and their components
3	Valence
4	Energy patterns in atoms
5	Understanding the periodic chart
6	Molecules
7	Ions and radicals
8	Hydrogen ion concentration (pH)
9	Normality and molarity
10	Examination
11	Properties of gases
12	Halogens
13	Metals
14	Carbon
15	Aldehydes, ketones, and single sugars
16	Carbohydrates structure
17	Carbohydrate metabolism
18	Lipids
19	Amino acids
20	Proteins
21	Examination
22	Fermentations
23	Baking powders
24	Food energy
25	Sweeteners
26	Preservatives
27	Flavoring agents
28	Antioxidants
29	Regulations on food chemicals
	Final Examination

BASIC FOOD CHEMISTRY LABORATORY

Unit	Topic
1	Understanding laboratory equipment and procedures
2	Moisture determination
3	Micro-analytical test for purity of foodstuffs (filth test)
4	Measuring acidity and alkalinity
5	Analyses of total ash
6	Melting points
7	Specific gravity determination
8	Analyses of sugar
9	Lipid analyses
10	Kjeldahl nitrogen determination
11	Iodine values
12	Phosphate determination
13	Determination of calcium
14	Analyses of baking powder for available CO_2
15	Rancidity
16	Baking reactions

ADVANCED CHEMISTRY OF FOOD PRESERVATION OR PROCESSING

Unit **Topic**

1 Development of Food Chemistry

2 Fats and Other Lipids
  A. Occurrence in foods and composition
  B. Edible fats and oils
    1. Fatty acids
    2. Identification of natural fats and oils
      (a) Physical properties (melting point, softening point, etc.)
      (b) Chemical properties
  C. The technology of edible fats and oils: (rendering, pressing, solvent extraction, refining, hydrogenation, technology of individual fat products)

3 Food Carbohydrates
  A. Monosaccharides
  B. Disaccharides
  C. Polysaccharides: (cellulose, technology of starch, pectic substances, gums and mucilages)
  D. Identification: (color reaction, reaction products of mono — and disaccharides, fermentation with yeast, optical activity)
  E. Changes of carbohydrates in cooking: (solubility, hydrolysis, gelatinization of starch)
  F. Browning reactions

4 Proteins in Foods
  A. Proteins in Man's diet
  B. Chemical and physical properties: (structure, molecular weights and homogenity, chemical properties, native and denatured proteins)
  C. Determination of protein in foods (kjeldahl method, Dumas method, and amino acids)
  D. Heat treatment
  E. Some notable protein systems in foods

5 Enzymes in Foods
  A. Significance of enzymes in foods
  B. Occurence and classification
  C. Mechanism of enzyme action in foods: (kinetics of enzymic reactions, effect of pH, effect of substrate and enzyme concentration, effect of temperature, mode of action)
  D. Enzyme inhibition

6 Chemistry of Food Flavor
  A. The sensation of flavor
  B. Chemical compounds in food which are responsible for flavor
    1. Mechanism of the formation of these chemical compounds
    2. Relationship of chemical structure and flavor
    3. Relationship of chemical structure and odor
    4. Development of off-flavors and their chemistry
    5. Defining desirable flavor

Unit	Topic
6	C. Methods for isolation of flavor components D. Control of flavor and aroma in processed food E. Synthetic flavor substances F. Recent developments in flavor research
7	Chemistry of Food Texture A. Definition of texture B. Structure and chemical composition of food products as related to texture C. Physical and chemical determinations related to food texture
8	Chemistry of Food Color A. Definition of color B. The natural coloring matters 1. Heme pigments in meat and fish 2. Chlorphyll in green vegetables 3. The carotenoids C. Non-enzymatic browning D. Color measurement 1. Color difference measurement 2. Instrumentation
9	Food Chemicals and Their Function in Foods A. Types of food chemicals and their significance B. Methodology of government approval C. New chemical methods for their determination

ADVANCED FOOD CHEMISTRY LABORATORIES

Unit	Topic
1	Introduction
2	Fat analysis of foods
3	Proteins analysis and tests for proteins in foods
4	Electrophoretic separation of food proteins
5	Electrophoretic separation of food proteins
6	Analysis of carbohydrates in foods
7	Chemical analyses of food flavor
8	Chemical analyses of food flavor
9	Analysis of natural color constituents in food
10	Color measurement using a Gardiner Color Difference Meter
11	Field trip to Arthur D. Little, Boston
12	Chemical and physical measurement of food texture
13	Chemical and physical measurement of food texture
14	Food chemicals
15	Food chemicals
16	Laboratory final

MEAT AND MEAT PRODUCTS

Unit	Topic
1	The livestock and meat industry - history, economics
2	Meat inspection and meat grading
3	Beef production, marketing and slaughter
4	Beef cutting, packaging and merchandising
5	Beef cutting, packaging and merchandising
6	Lamb production, marketing and slaughter
7	Lamb cutting, packaging and merchandising
8	Pork production, marketing and merchandising
9	Pork cutting, packaging and merchandising
10	Curing and preserving meats; smoking; sausage making; lard
11	Veal production, marketing and slaughter
12	Veal cutting, packaging and merchandising
13	Meat - chemical, physical, and nutritional properties
14	Meat identification and selection
15	Meat preparation - cookery, carving
16	Recent advances in the meat industry and its trends

Field trips to a packing plant, to a retail outlet and wholesale warehouse are recommended.

MEAT GRADING AND EVALUATION

Unit	Topic
1	The influence of meat grades on the economy and desirability of carcass and primal (wholesale) meats.
2	The influence of grade on consumer acceptability of meats.
3	Tenderness factors and their effects on consumer selection and demand.
4	Beef grades.
5	Beef grade interpretation.
6	Beef grade application.
7	Pork grades.
8	Pork grade interpretation.
9	Pork grade application.
10	Lamb grades.
11	Lamb grade interpretation.
12	Lamb grade application.
13	Veal grades
14	Field trip - work with federal meat grader.
15	Field trip - work with packer grader.
16	Field trip - work with supermarket meat buyer.

MEAT WHOLESALING AND RETAILING

Unit	Topic
1	Service and self-service meat department operations
2	Buying and receiving meats-cooler and cutting room flow
3	Modern meat cutting and merchandising - beef
4	Modern meat cutting and merchandising - beef
5	Modern meat cutting and merchandising - lamb
6	Modern meat cutting and merchandising - veal
7	Modern meat cutting and merchandising - fresh and cured pork
8	Cutting tests and their application
9	Tonnage control and records
10	Weights, labeling, nomenclature
11	Quality control, sanitation, shelf life, packaging
12	Specials; loss leaders
13	Case display and lay-out; lighting; advertising
14	Frozen meats and canned meats
15	Delicatessen and specialty meats; variety meats
16	Price structures; gross profit; new profit

MARKETING POULTRY

Unit	Topic
1	U.S.D.A. grades - economics service
2	Quality preservation of poultry
	Visit poultry processing plant
3	State and Federal poultry laws
	Visit to poultry speciality farm
4	Packaging poultry
	Visit to food store, warehouse and a freezer plant
5	Displaying poultry
	Visit to chain store
6	Merchandising and retailing poultry
	Slaughtering
7	Buying, selling and transporting poultry
	Dressing and packaging
8	Speciality products
	Visit to turkey processing plant farm retail store
9	Promotion and advertising
	Boning and packaging
10	Nationality and consumer preferences
	Sanitation
11	Speciality products
	New poultry products
12	Labeling poultry and use of brand names
	Preparation of poultry products
13	Storing poultry
	Displaying poultry
14	Poultry parts
	Shelf life

MARKETING EGGS

Unit	Topic
1	Formation of the egg - U.S.D.A. and state egg grades
2	Temperature, humidity and handling as they affect eggs
	Methods of determining quality
3	Internal and external factors affecting egg quality
	Candling - exterior egg quality
4	State and federal egg laws
	Candling - interior egg quality
5	Egg quality and sales
	Candling - abnormal and loss eggs
6	Packaging eggs
	Visit to Eastern States egg grading station
7	Displaying eggs
	Visit to chain stores
8	Merchandising and retailing eggs
	Use of display case - bulk or mass or spot displays
9	Preserving egg quality **(refrigeration)**
	Preserving egg quality **(treatments)**
10	Egg products **(fresh)**
	Egg products **(frozen)**
11	Egg standards and inspection
	Egg inspection
12	Consumer preferences
	Study of surveys
13	Storing eggs
	Cleaning eggs
14	Egg trade associations
	Egg processing

ORNAMENTAL PLANT HANDLING AND DISTRIBUTION

Unit	Topic
1	The privilege of service
2	Fixtures and equipment for ornamental plant handling
3	Layout for efficiency
4	Care of nursery stock
5	Care of florist crops
6	Stocking merchandise - sources and selection
7	Pricing and discounts
8	Attracting customers and salesmanship
9	Customer relations
10	Advertising plants and allied lines
11	Merchandising and promotion
12	The grower and wholesaler
13	Display of nursery crops
14	Display of florist crops
15	Decoration, signs, pictures and plate books
16	Inventory control
17	Records and record keeping
18	Problems of perishability - when are plants not saleable
19	Inspection and licensing to handle ornamental plants
20	Disease and insect control in the sales area
21	Sources of information - books, magazines, public information, university etc.

LABORATORY

Laboratories to be organized for plant identification, handling and care.

NUTRITION AND CONSUMER PRACTICES

Unit	Topic
1	Introduction to the Meaning of Food to an Individual. The complex interaction of all the following factors is stressed. A. Place of nutrients in body needs B. Psychological role of food C. Palatability of food D. Safety of food E. Economic aspects of food
2	Place of Nutrients in Body Needs Body and its need of nutrients Broad changes in needs of body at various levels of growth in infancy, adolescence, young adult, older adult Good food sources of the nutrients Guides for supply body with these nutrients: 1. Recommended dietary allowance 2. Minimum daily requirement 3. Other guides - basic 4 Cost of sources of a single nutrient as an example of price variation
3	Psychological Role of Food Attitudes towards food likes and dislikes Attitude of person doing planning and preparation of foods Open-mindedness towards food—how can an individual change his mind
4	Palatability of Food Components of palatability The methods of tasting—what individual tastes for Definition of flavor Use of tasting in determining acceptability of a product Establishment of food preferences—how they can be motivating forces in sales
5	Safety of Food Food associated with illness Hazards to health in processing, storage both at retail market and in home Contamination of food Chemical additives and the role they play Importance of safety in retailing
6	Economic Aspects of Food Kinds of "wants" met by food Resources available to meet the "wants", skill, time, money Relative values attached to the satisfaction of the "wants" vs. other uses of resources Cost of labor by consumer in satisfaction of the needs Convenience foods - cost of living index - food area Food buying - review of labeling, brand names, standards and their meaning Budgeting of money by consumer for spending in the retail market

Unit	Topic
7	The Complex and How All the Factors Work Together. The following examples are used to explain the interrelationships of all these factors--indicating the area which received greatest interest in the United States Eggs as a food Fruits and vegetables Meat and meat products Cereal products Milk and milk products

QUALITY EVALUATION OF FOOD (CHEMICAL)

Unit	Topic
1	Food A. Matter, inanimate, animate B. Autotropic - helerotropic organisms C. Constituents of food
2	Carbohydrates A. Classifications, elements present, man's need 1. Simple sugars B. Sweetness of sugars C. Synthetic sweeteners D. Polysaccharides Cellulose, starch, glycogen, chitin, pectins E. Granulated sugars - classification by grain size F. Browning reaction in foods due to sugars - caramelization, etc.
3	Proteins A. Classifications, elements present, man's need B. Amino acids, classes, essential, basic structures C. "High Biological Value" foods D. Specific proteins found in: 1. Milk 2. Wheat 3. Eggs 4. Meat E. World shortages
4	Lipids A. Classification - elements present B. Simple lipids C. Flavor defects due to lipid breakdown D. Fatty acids - saturated, unsaturated in types of foods E. Autioxidants
5	Vitamins A. Classification as to solubilities B. Distribution in types of foods C. Result of deficiencies D. Man's requirements E. Uses - additives
6	Quality Aspects of Foods A. Definition of quality B. Methods of judging quality Objective methods Subjective methods

Unit	Topic
7	Sensory Evaluation of Foods A. Thresholds, basic tastes B. Flavors C. Methods of Sensory Testing Bias involved Preference, difference consumer tests D. Methods of presentation and interpretation
8	Federal Standards A. Food and Drug, Department of Agriculture - grading techniques and criteria
9	Specific Food Discussed in Class Beverages -- coffee, juices, cider; regulatory standards, definitions Meat--Beef grades and criteria Cereals--Wheat, corn, oats, rice - types of rice - converted, brown wild - Breads - leavened, unleavened Permitted additives Frozen Desserts-- iced milk, ice cream, sherbet, french ice cream Flavor defects of ice cream Scoring methods - texture flavor Fruits - fresh, canned and frozen Processed products Grading standards. FDA definitions and criteria Vegetables--potatoes - grading Varieties as to mealiness, uses Cheese--foreign and domestic, processed, natural. Identification & grades of cheddar cheese
10	Food Additives Definitions, autioxidants, flavor enhancers. M.S.G. 5' nucleotides
11	Oral reports on related topics to those covered in lectures

EVALUATION OF FOOD PRODUCTS LABORATORY

Unit	Topic
1	Carbohydrates Relative sweetness of sugars and synthetic sweetners
2	Proteins - Denaturation Classes - solubilities Paper chromatography amino acids
3	Purchasing practices and quality criteria of food
4	Determination of recognition threshold for 4 basic tastes of each student
5	Judging quality of foods covered in lectures - sensory attributes, physical inspection - defects
6	General classes of foods examined: cereals, coffees, coffee substitutes, cheeses, canned & frozen vegetables, canned frozen juice, butter and margarine, bacons.
7	Rancidity and sourness
8	Texture
9	Color
10	Package appearance

EVALUATION OF FOOD PRODUCTS (PHYSICAL)

Unit	Topic
1	Basic Principles of Organoleptic Examination of Food Products A. Physiology of taste and smell B. Four senses used C. Primary tastes D. Practical use in industry etc.
2	Flavor Defects
3	Texture, Body and Appearance
4	Quality Scores A. Flavor defects - relative scores B. Body and texture defects - relative scores C. Appearance defects - relative scores
5	Fresh Foods A. Types - sweet, salt B. Federal grades and grading C. Famous brand names and imports
6	Frozen Foods: (definitions, size, shape, age, colors, brands, defects of flavor, dehydration, packaging)
7	Processed Foods A. Definition and federal standards B. Manufacture of (briefly) C. Package types sold and use
8	Foreign Foods A. Definition and standards B. Package types sold C. Use
9	Dehydrated Foods A. Definitions and standards B. Various types 1. Flavor additives 2. Package types and sizes C. Defects of flavor D. Defects of body and texture
10	Ice Creams A. Definitions, standards B. Types - deluxe, standard and low fat C. Defects of flavor D. Defects of body and texture E. Ice cream scoring

Unit	Topic
11	Convenience Specialities A. Cake rolls and cakes B. Tarts, pies, etc. C. Sandwiches and bars
12	Beverages: (flavors, flavor defects, body and texture defects, scoring, solids content)
13	Cultured Foods A. Buttermilk B. Yoghurt

Laboratories should consist of observing and discussing the various products and product defects. Numerous samples should also be graded and scored to teach the student the over-all grade of the product and thus the comparative price value.

CITY MILK SUPPLY

Unit	Topic
1	Orientation of course
2	History and development of market milk industry
3	Milk constituents
4	Factors influencing composition of milk
5	Chemical and physical properties of milk
6	Bacteriology of milk - sources, tests
7	Milk and public health
8	Production of milk - bulk tanks
9	Common dairy processes and plant problems
10	Flavors
11	Refrigeration

CITY MILK SUPPLY LABORATORY

Unit	Topic
1	Plant tour and discussion of equipment
2	Babcock testing - demonstration
3	Babcock testing - milk
4	Babcock testing
5	Babcock testing
6	Babcock testing - cream
7	Weighing and sampling methods
8	Composite sample testing
9	Laboratory examination
10	Dairy arithmetic
11	Dairy arithmetic
12	Milk bacteriology and the microscope
13	Use of microscope - leucocyte counts and types of bacteria
14	Effect of cooling of milk on bacteria
15	Effect of mastitis and dirty utensils
16	Agar plate method
17	Student plating
18	Laboratory pasteurized counts
19	Lactometer and freezing points
20	Milking machines
21	Bulk tanks
22	Milk flavors
23	Clarification and separation
24	Batch pasteurization
25	Homogenization
26	High temperature short time pasteurization
27	Refrigeration systems
28	Dairy barn scoring

VEGETABLE CROP DISTRIBUTION AND HANDLING

Unit	Topic
1	Introduction A. Where the nation's vegetables originate B. Per capita consumption C. Principle marketing channels
2	Sorting and Grading Vegetables A. Federal grades B. State grades C. Establishing grade standards
3	Perennial Crops: (asparagus, rhubarb--field and forced, artichoke)
4	Potherbs or Greens: (spinach, New Zealand spinach, kale, mustard, collards, dandelions)
5	Salad Crops: (celery, lettuce, endive, chicory, parsley, watercress)
6	Cole Crops: (cabbage, cauliflower, sprouting broccoli, brussels sprouts, kohlrabi, chinese cabbage)
7	Root Crops: (beets, carrots, parsnips, salsify, turnip, rutabaga, radish, horse radish, celeriac)
8	Bulb Crops: (onion, leek, garlic, chives)
9	Potato
10	Legumes: (peas, lima beans, snap beans broad beans, yellow eye beans, horticulture beans)
11	Solonaceous Fruits: (tomato, eggplant, pepper, husk tomato)
12	Vine Crops: (cucumber, muskmelon, watermelon, pumpkin, squash)
13	Sweet Corn and Miscellaneous
14	Post-Harvest Physiology of Vegetable Crops
15	Conserving Quality in Vegetables

VEGETABLE CROP DISTRIBUTION AND HANDLING LABORATORY

Unit	Topic
1	Tour of vegetable research farm
2	Solansceous fruits
3	Salad crops
4	Vine crops
5	Tour of regional market - Hartford
6	Potherbs and greens
7	Cole crops
8	Tour of prepackaging plant - East Hartford
9	Bulb crops
10	Tour of supermarket
11	Potatoes
12	Tour of supermarket
13	Root crops
14	Tour of supermarket
15	Legume crops

FOOD MICROBIOLOGY

Unit	Topic
1	Introduction - Definition and scope of bacterial activites Desirable and undesirable bacteria Importance of bacteriology to dairymen General facts about bacteria
2	Morphology and Classification of Bacteria Size, shape, habitat, and method of reproduction Explanation of general terms used in bacteriology
3	Nutrition and Growth of Microorganisms Necessity of certain classes of nutrients How bacteria obtain their food Role of enzymes Nomenclature of enzymes
4	Culture Mediums Composition of media Changes produced by bacteria Normal fermentation processes Acid and gas formation Proteolysis Certain defects related to bacterial activities
5	Sources of Bacterial Contamination Methods of control Destruction of microorganisms by heat Various methods of heat application Pasteurization of food
6	Classification of Bacteria According to Temperature Requirements Effects of temperatures on bacteria
7	Methods of Determining Sanitary Quality of Food and Food Products Platform quality tests - sediment tests Laboratory tests Applications and limitations Phosphatase test
8	Food Poisoning, Food Infections, Food Intoxications
9	Bacteriology of Frozen Desserts
10	Butter and Cheese Cultures
11	Antibiotics

FOOD MICROBIOLOGY LABORATORY

Unit	Topic
1	The Microscope
2	Morphology and Staining of Bacteria: (methylene blue, gram stain)
3	Preparation of Media: (litmus milk, standard agar and nutrient broth)
4	Lactic Fermentation of Litmus Milk
5	Direct Microscopic Clump Count: (calculation of microscopic factor, preparation and staining of films, method of counting)
6	Standard Plate Count: (method of making plates, dilutions, selection and counting of plates)
7	Tests for Coliform Group
8	Solid and Liquid Media Lactose fermentation Method of estimating numbers of organisms
9	Phosphatase Test: (uses and limitations, controls, interpretation)
10	Laboratory Pasteurization (uses and interpretation)
11	Antibiotics in Food: (methods of testing)

INTRODUCTION TO ANIMAL SCIENCE

This is a course concerning the physiology and anatomy of farm animals and humans.

Unit	Topic
1	Histology - cells and tissues
2	Mammalian Organization - organs and systems
3	Skeletal System A. Bones B. Skeleton C. Joints
4	Muscle System
5	Circulatory System A. Blood B. Heart and vascular elements C. Lymph
6	Respiratory System A. Ventilation B. Gaseous exchange
7	Digestive System A. Alimentary canal B. Nutrition
8	Excretory System A. Urine secretion B. Micturition
9	Endocrinology A. Thyroid B. Parathyroid C. Pancreas D. Adrenals E. Hypophysis
10	Reproduction A. Female 1. General physiology and anatomy 2. Species characteristics B. Male
11	Nervous System

BOTANY AND HORTICULTURE

Unit	Topic
1	The Place of Horticulture in Agriculture A. Horticulture defined B. The work of the horticulturist
2	Classification of Plants A. Botanical classifications B. Agricultural classification C. Horticultural classification
3	Cell Structure and Protoplasm A. Parts of the cell B. Nature and function of the cell wall C. Protoplasm D. The nucleus E. Chromosomes and plastids F. Cell division
4	Roots A. Tap and fibrous root systems B. Root structure C. Food storage in roots D. Root hairs E. Mycorrhiza F. Conditions favoring root growth
5	Absorption of Water and Mineral Salts A. Diffusion B. Composition and concentration of the cell sap C. The soil solution D. Movement of water and salts through the cell walls and protoplasm E. Turgor pressure F. Absorption of salts by plant energy
6	Stems and Buds A. Kinds of stems B. Stem structure C. Stem growth in length and in thickness D. Structure of buds E. Kinds of buds
7	Leaf Structure A. External structure B. The epidermis as a protective covering C. Stomata D. Size and distribution of stomata E. Diffusion through stomata F. Mesophyll G. Chloroplasts H. Air spaces I. Some modified leaves

Unit	Topic
8	Specialized Buds and Stems A. Bulbs B. Corms C. Crowns D. Rootstocks or rhizomes E. Tubers F. Offsets G. Runners H. Stolons I. Stooling and tubering
9-10	Basic Plant Processes A. Photosynthesis B. Transpiration C. Assimilation D. Digestion E. Respiration F. Fermentation
11	Growth and Fruitfulness A. External and internal conditions favoring vegetative growth B. External and internal conditions favoring reproductive growth C. Flowering and fruiting habits D. Flower-bud differentiation
12	The Horticultural Plant in Relation to Temperature A. Temperature as a limiting factor B. Minimum temperatures C. Maximum temperatures D. Classification of crops based on temperature relations E. Length of growing season F. Practices used to modify temperature
13	The Horticultural Plant in Relation to Moisture A. Water as a plant constituent B. Water requirements in terms of precipitation C. Atmospheric humidity D. Symptoms of water deficiency and excess E. Practices used to provide optimum levels of moisture
14	The Horticultural Plant in Relation to Light A. Influence of kind or quality of light B. Influence of duration of light C. Etiolation and blanching D. Mutation
15	Plant Tropisms A. Phototropism - reaction to light B. Geotropism - gravitational attraction C. Plagiotropism - tendency to have longer axis inclined away from the vertical line D. Thigmotropism - response to mechanical stimulation - twining

BOTANY AND HORTICULTURE LABORATORY

Unit	Topic
1	Tour of orchard and hydroponic unit
2	Tour of vegetable research farm and weather station
3	Tour of floriculture greenhouses and gardens
4	Plant kingdom studies
5	Identifying gymnosperms
6	Identifying angiosperms
7	The anatomy of the leaf
8	The structure of dicotyledenous leaves
9	The structure of monocotyledon and conifer leaves
10	Structure of stems - monocots, dicots - conifers
11	Buds and bud arrangements
12	Growth and development of the seed plant - monocots and dicots
13	Roots - fibrous and tap
14	Inflorescence and flower types
15	Fruits of plants

FRUIT TECHNOLOGY

Unit	Topic
1	Introduction A. What is a fruit? B. Geography of fruit production 1. Temperature regions 2. Subtropical 3. Tropical
2	Post Harvest Physiology A. Fruit - a living organism B. Respiration of fruits 1. Temperature 2. Humidity 3. Composition of surrounding atmosphere
3	Post Harvest Physiology A. Temperature effects on fruit ripening B. Field heat C. Heat of respiration D. Low temperature injuries
4	Transportation of Fruits: (ship, rail, truck, air)
5	Morphology and Anatomy of Fruits: (pome, drupes, aggregates, multiple, berries)
6	Grades and Standards: (local, state, federal, export)
7	Quality Control of Fruits Varieties, storage, special handling, shipping containers and uses
8	Apples
9	Pears
10	Stone Fruits
11	Grapes and Strawberries
12	Other Small Fruits
13	Citrus
14	Other Subtropical Fruits
15	Bananas
16	Other Tropical Fruits
17	Purchasing Channels
18	Displaying Fruits for Sale
19	Display and Promotion Materials

AGRICULTURAL MARKETING AND COOPERATION

Unit	Topic
1	A. Definition of agricultural marketing. B. What marketing consists of from point of view of consumer, farmers and middlemen. C. Marketing as an essential activity to farmers and nonfarmers. D. How marketing systems develop. E. Importance of marketing to level of living; to commercial agriculture.
2	A. Marketing as a productive activity creates time, place and possession utility. B. Consumer sovereignty - how the consumer allocates his income; importance of meeting consumers preferences; how consumers preferences influence farm production and farm profits. C. Definition of marketing efficiency. D. Study of economic trends in prices and food consumption. Use of tables Accuracy in tables Index numbers
3	A. Market channels defined and illustrated. D. Direct marketing - importance in Connecticut. C. Marketing functions can't be eliminated. D. Major marketing functions: (assembling, processing, equalization, dispersion) E. Continue study of economic trends in prices and food consumption using Graphic Analysis.
4	A. Exchange function (buying & selling) risk taking, financing, demand creation (advertising & merchandising), market information, transportation (methods, trends) and storage (types, needs, purpose). B. Slide illustration (2" x 2" color slides) showing marketing functions such as processing, transporting, storage and discussion of these functions.
5	A. Packaging - Types of packages Functions of consumer packages Packaging new products New product testing. B. Grades and standards for agricultural products Standard of amount Standards of quality Standards of wholesomeness C. How grades and standards facilitate marketing. D. Are USDA grades substitutes for brand names? E. Slide illustration of marketing functions including packaging, grades and standards and discussion of these functions.
6	A. Middleman defined B. Farmers attitude toward middlemen C. Can functions of middlemen be eliminated?

Unit	Topic
6	D. Middleman classified according to type of business organization: Individual proprietor Partnership Corporation Cooperative
	E. Middlemen classified according to amount of risk taken. Merchant middlemen Agent middlemen Brokers Commission men Manufacturers agents Speculative middlemen
	F. Discussion of vertical and horizontal integration in food processing and merchandising. Chain store warehouses Chain store processing Direct purchasing from production areas
	G. Vertical integration (contract farming) in farm production to meet the needs of food distributors.
7	A. Wholesale middlemen - changes in their function due to integration.
	B. Retail middlemen Trends in size of store Number of stores Supermarket selling Margin and profits in retail stores
	C. Discussion "How Can the Independent Grocery Survive?" Price competition in chain stores Voluntary and cooperative chains Legislation pertaining to fair trade and competition
8	A. What is a market? Common meaning Economic meaning
	B. Size of market area varies for different products depending upon: Bulk Perishability
	C. Local markets, national markets, world markets illustrated by commodities.
	D. Law of single price within a market.
	E. Conditions to maintain a single price within a market.
	F. Discuss laws of supply, laws of demand, equilibrium price. Illustrate supply and demand by use of tables and graphs.
9	A. Functions of price in a free economy. Guide and regulate production Allocates production resources Guide and regulates consumption Guide and regulates distribution Geographically and through time
	B. Conditions necessary for pure price competition.
	C. Problem solving exercise using data on supply and demand schedules. Price determination. Factors causing changes in demand and supply.

Unit	Topic
10	A. Derived demand - demand at retail, at wholesale, and at farm.
	B. Supply - at farm and at retail.
	C. The impact of an increase in marketing costs on farm price.
	Short run impact
	Longer run impact
	D. The demand curve of individual buyer and seller.
	E. Concepts of elasticity of demand and supply.
	F. Elasticity illustrated graphically and by arithmetic.
11	A. Is the competitive model realistic?
	B. Product differentiation.
	Genuine differences in products
	Assumed differences in products
	C. Nonprice competition in food.
	Brand names, advertising, merchandising, impulse buying, trading stamps, promotion, credit, delivery, etc.
12	A. How do industrial firms and large processing plants achieve market power?
	Monopoly, oligopoly, price leadership, sharing the market.
	B. Methods by which farmers may obtain market power.
	Production controls, marketing orders, cooperative bargaining association, cooperative marketing association.
	C. Cooperative Bargaining Associations - their advantages and limitations.
	D. Minimum wage legislation and unions of farmers as a means of obtaining higher farm prices.
13	A. Farmer cooperatives defined
	B. Types of cooperatives
	C. Principles of cooperation
	D. Financing cooperatives
	E. Control and management of cooperatives
	F. Cooperatives - limitation as a business organization
	G. Develop by - laws for cooperatives
	H. Set up revolving fund for cooperatives
14	A. Farm - retail price spreads
	B. Farmers share of consumers food dollar
	C. Market basket trends
	D. Detail examination of the spread between farm price and retail price for beef, pork, and poultry meat.
	E. Emphasize the importance of the shrink in weight in comparing farm and retail prices.
15	A. Causes for decline in farmer share since World War II.
	Lower farm prices, higher market cost.
	B. Comparison of trends in marketing costs and farm prices during depression and war since 1913.
	C. Causes for rigidity in marketing costs.
	D. Federal marketing orders for milk.
	E. Federal marketing orders for fruits and vegetables.

Unit	Topic
16	A. Trends in total marketing bill since World War II.
	B. Trends in efficiency of marketing since World War II.
	C. How does the new services, new forms of products influence marketing costs?
	D. Federal marketing orders for other products such as eggs and broilers.
	E. Limitations of state marketing orders.
	F. Review

BUSINESS MANAGEMENT

Unit **Topic**

1 The Functions of Management
- A. Managers are decision makers who control and direct the business. Business is defined as the activity of producing and distributing goods and services.
  - 1. The steps of the decision-making process should be discussed and their relationships to the manager's role should be elaborated.
    - a. Steps of decision-making process
      - (1) Recognizing problems
      - (2) Developing alternative courses of action
      - (3) Gathering data
      - (4) Evaluating alternative courses of action

2 Objectives of Management: (manage goals, maximum profits, personal satisfaction, community standing)

3 Phases of Management: (production, financial, marketing)

4 Forms of Business Organizations -- Advantages and Disadvantages of Each.
- A. Sole proprietorship
- B. Partnership
- C. Corporation
- D. Cooperative

5 Business Records and Bookkeeping Procedures Necessary to Operate a Business.
- A. Position statements (balance sheets)
  - 1. Components of balance sheet
  - 2. Understanding balance sheet
  - 3. Using balance sheet to analyze a business
  - 4. Use of financing and loans

6 Profit and Loss Statements
- A. Records of sales
- B. Records of purchases inventory
- C. Records of business expenses
- D. Profit or loss
- E. Ratios -- profits as % of sales -- % return on investment -- dividends.

7 Other Records: (daily sales -- cash or credit, daily purchases, accounts receivable, accounts payable, cash account, payroll and personnel, taxes, supplies -- inventory control, permanent ledger).

8 Review of Arithmetic Needed to Operate a Business
- A. Tie arithmetic in as a tool necessary to calculate mark-up on products sold, costs of doing business, etc.

Unit	Topic
9	Understanding Costs A. Nature of costs: (fixed costs (overhead), variable costs, average and marginal costs)
10	Overhead Costs A. Factors affecting overhead: (depreciation, methods of calculating depreciation, taxes and insurance)
11	Components of Variable Costs A. Minimizing variable cost B. Importance of plant efficiency C. Break-even calculations D. Economies of scale in plant or business E. Importance of fast turnover of inventory
12	Financing a Business A. Importance of records when borrowing money B. When borrowing is profitable C. Sources of capitals (money): (loans — banks and individuals, stocks and bonds, notes, trade credit) D. Cost of borrowing 1. Methods of computing interest charges
13	Legal Framework of Business A. Our legal system: (common law, statute law, courts system) B. Contracts 1. Requirements of a contract C. Property 1. Real property: (title, mortages, deeds, lease) 2. Personal property D. Negotiable instruments — promissory note or check 1. Requirements of negotiability E. Sales: (transfer of title, warrantees) F. Bankruptcy G. Torts

SALES AND SERVICE

Unit **Topic**

1 Introduction
- A. What is a sale?
  - 1. Elements involved
- B. What is a salesman?
  - 1. Picture of a professional salesman
  - 2. A career - a profession

2 Past, Present and Future Status of Salesmen

3 Requirements of Sales and Service Men
- A. Personal traits (1) physical, (2) mental, (3) moral
- B. Abilities or qualities
- C. Principles and facts that need to be understood
- D. Obligations to his company
- E. Obligations to prospects and coustomers
- F. Obligations to himself

4 The Salesman's Company
- A. Historical background
- B. Company information - uses
- C. Present status in the field
- D. Organization and policies

5 Products Handled - Essential Facts
- A. Raw materials
- B. Methods of manufacture and standards
  - 1. Yours
  - 2. Competitive
- C. Research program
- D. Laboratory facilities and customer product tests
- E. The product line
  - 1. Grades and composition
  - 2. Prices
  - 3. Company support and guarantees

6. Buying Motives
- A. Role of buyer
- B. Subjective motives (approval, prestige, power, society, etc.)
- C. Objective motives (convenience, economy, guarantee, quality, service, etc.)
- D. Resale motives: (advertising aid, complete line, dealer demand, consumer demand, profit, selling aid)

7 Pre-Sales Approach
- A. Nature
- B. Knowledge required
  - 1. Of product
  - 2. Of prospect
    - (a) Buying practices
    - (b) Quantity needed
    - (c) Ability to pay, etc.

Unit	Topic
7	C. Physical preparation - self and products or samples D. Planning strategy of presentation E. Reason for call
8	The Sales Approach A. General conduct B. Getting the interview
9	Sales Interviews and Presentations A. Types of selling 1. One stop, nonrepeat, high pressure 2. Capital goods 3. Service selling and intangibles B. Fit your product into his business or routine - not vice versa C. Speak his language D. Sell results that product will produce E. Showmanship - dramatize the demonstration F. Get prospect into the act - let him handle samples, product, literature, etc.
10	Competition
11	Handling Objections
12	Closing the Sales
13	Repeat Sales
14	Advertising: (defined, functions, make use of)
15	Sales Tools or Helps: (visual aids, pictures, minature and actual samples, engineering data, product displays, window displays, printed material, sales letters)
16	Sales Reports and Records
17	Conducting a Sales Meeting
18	Financing Orders - Terminology C.O.D., S.D. vs. B.O.H., F.O.B., F.A.S., etc.
19	Customer Service and Product Use
20	Public Relations
21	Contract Law

PLANT AND STORE SANITATION

Unit	Topic
1	Building Construction as it Affects Sanitation: (floors, walls, ceilings, windows, lighting, ventilation, painting, parking lots)
2	Equipment: materials and construction as it affects sanitation.
3	Cleaning and Polishing Materials.
4	Cleaning Schedules and Procedures.
5	Care and Proper Operation of Cleaning Equipment.
6	Sanitizing Materials.
7	Sanitizing Schedules and Procedures.
8	Sanitizing Equipment.
9	Water Supply. A. Potable B. Nonpotable
10	Waste Disposal: (scrap disposal, garbage disposal, sewerage disposal, paper disposal, salvage)
11	Personnel, Health, Appearance and Habits: (health history of employees, physical examinations, communicable diseases, uniforms, hair nets, jewelry, smoking, chewing, etc.)
12	Toilet and Locker Room Facilities: (requirements, cleaning schedules, hand washing signs)
13	Roach, Rodent, Fly and Insect Control.
14	Stock Storage, Turnover, Inventory.
15	Temperature and Humidity of Stock and Storage Areas.
16	Inspection Forms and Procedures.
17	Methods of Getting Unsanitary Conditions Corrected.
18	State and Federal Sanitation Requirements. A. Meat packing plants. B. Poultry processing plants. C. Dairy processing plants. D. Fruit and vegetable processing plants. E. Frozen food processing plants. F. Bakeries. G. Retail stores. H. Other food establishments.

FOOD PACKAGING

Unit	Topic	Laboratory
1	Introduction	Package identification
2	Paper containers	Paper testing
3	Paperboard packages	Set up boxes
4	Plastic containers	Film identification
	Hour Exam	
5	Foils and cellophane package testing	Strength tests
6	Glass containers	Field trip
7	Metal containers	Glass testing
8	Aerosols	Can testing
9	Packaging machinery	Films
	Hour Exam	
10	Labels, seals, tags	Field trip
11	Shipping containers	Label design
12	Package design	Package design
13	Decoration and merchandising	Package development
14	Legal considerations	Field trip
15	Specialty packages	Heat seals
	Final Examination	

OPERATIONAL UTILITIES

Unit	Topic
1	Introduction: Electricity A. Principles; electrical terms and elementary circuits. B. Growth in uses of electricity.
2	The Electric Service A. Methods of generating. B. Distribution systems; voltage, phase, ampere, etc. C. Electric power and energy; watt—kilowatt hour. D. Cost of use; rates, meter reading, minimum bill, demand, etc.
3	Electric Wiring Practice A. Wiring materials and devices. B. Circuits and circuit capacity. C. Grounding: (1) Size wire to use for load and number of outlets. (2) Circuit protection, fuses, breakers. D. Codes and regulations. E. Practice in wiring circuits.
4	Farm Residence Wiring for Electricity A. Planning for optimum utility. 1. Convenience outlets in all rooms. 2. Light outlets for all rooms and areas. 3. Special purpose outlets and circuits.
5	Wiring for Buildings A. Individual building requirements are studied. 1. Lighting, convenience outlets, special circuits. 2. Materials and circuit protection. 3. Service entrance equipment for each building.
6	Electric Distribution System A. Location of meter - pole - building. B. Circuit protection to buildings. C. Demand - capacity, expansion, etc.
7	Controls for Electricity A. Switches, relays, push buttons, magnetic starters, etc. B. Temperature, pressure, light, level, time, and light controls. C. Wiring diagrams for controls.
8	Light A. Quantity, quality, measurements B. Light sources and merits of each. C. Factors in lighting design, distances intensities, etc. D. Special lighting - yards, germicidal, etc.

Unit	Topic
9	Heat A. Terms, units, transfer of heat. B. Heat sources: (1) Infrared, cables, resistance units. (2) Fuels and burning units. C. Determination of heating requirements. D. Special applications.
10	Electric Motors A. Operating characteristics for types. B. Construction features, speeds, etc., applied to use. C. Drives - belts, chains, gears, etc. D. Starting and overload protection. E. Care and maintenance.
11	Cooling and Ventilation A. Refrigerated cooling. 1. Temperatures of storage. 2. Refrigeration units, sizes, capacities. 3. Operational maintenance of equipment. B. Ventilation for different farm buildings. 1. Requirements. 2. Types of farms. 3. Locations of farms, inlets and discharge.
12	Water Supply A. Sources, wells, streams, ponds, etc. B. Pumping equipment. 1. Type pumps, characteristics, capacities, etc. C. Planning material types and uses. 1. Pipe, valves, fittings, etc., installation and capacity. D. Water systems and accessories. 1. Pressure tanks, switches, air volume control regulators, etc.
13	Waste Disposal A. Septic tank, principles and operation. B. Disposal areas.

Appendix Table 1: Number of people indicating rating preference for fundamental courses.

	Rating				
	1	2	3	4	5
English					
Store Managers	4	4	22	18	27
Employees	5	9	55	44	43
Academic	1	0	6	4	19
Mathematics					
Store Managers	2	0	8	16	50
Employees	2	0	24	38	92
Academic	0	0	4	6	20
Chemistry					
Store Managers	50	16	8	0	0
Employees	106	31	14	1	0
Academic	6	8	11	2	2
Physics					
Store Managers	46	18	7	1	0
Employees	96	35	15	3	0
Academic	11	13	3	1	1
Government					
Store Managers	24	20	24	5	0
Employees	70	33	37	11	4
Academic	2	5	8	12	3
Economics					
Store Managers	9	5	18	24	20
Employees	24	10	45	36	39
Academic	1	1	5	13	10

Appendix Table 2: Number of people indicating rating preference for business courses.

	Rating				
	1	2	3	4	5
Accounting & Bookkeeping					
Store Managers	1	0	9	19	46
Employees	3	6	33	43	70
Academic	0	1	4	12	13
Merchandising					
Store Managers	0	0	6	5	65
Employees	2	0	9	28	117
Academic	0	0	4	7	19
Business Management					
Store Managers	1	0	6	8	61
Employees	2	1	8	23	122
Academic	0	0	1	13	16
Marketing					
Store Managers	3	2	7	14	49
Employees	3	4	18	31	100
Academic	0	0	7	12	11
General Retailing					
Store Managers	4	7	21	20	22
Employees	25	10	44	37	37
Academic	0	0	7	12	11
Salesmanship					
Store Managers	1	4	11	13	46
Employees	1	10	22	49	71
Academic	1	1	4	11	13
Secretarial Skills					
Store Managers	25	12	23	6	4
Employees	62	37	34	13	9
Academic	5	11	10	1	2

Appendix Table 3: Number of people indicating rating preferences for food courses.

	Rating				
	1	2	3	4	5
Meat Handling & Cutting					
Store Managers	0	2	12	12	50
Employees	7	9	15	21	102
Academic	1	3	16	7	3
Food Processing					
Store Managers	2	8	10	14	41
Employees	6	6	15	36	90
Academic					
Food Quality					
Store Managers	0	1	8	16	49
Employees	2	1	13	27	110
Academic	0	1	4	13	11
Food Retailing					
Store Managers	1	1	8	9	57
Employees	3	1	11	30	109
Academic	0	1	3	8	18
Food Identification					
Store Managers	1	2	7	10	56
Employees	6	1	11	23	113
Academic	0	0	8	10	10
Sanitation					
Store Managers	3	1	4	9	57
Employees	2	3	5	21	123
Academic	0	0	6	3	21

Appendix Table 4: Number of people indicating rating preference for social courses.

	Rating				
	1	2	3	4	5
Public Speaking					
Store Managers	1	1	21	9	43
Employees	6	8	37	28	77
Academic	0	1	6	7	16
Sociology					
Store Managers	17	15	24	10	7
Employees	29	26	55	26	18
Academic	0	9	14	4	3
Psychology					
Store Managers	8	8	21	23	15
Employees	23	20	39	35	35
Academic	0	2	15	4	9
Salesmanship					
Store Managers	1	4	16	11	41
Employees	2	8	23	42	80
Academic	0	1	5	11	13

Appendix Table 5: Responsibility Categories and Occupational Titles Code System Applied to Food Distribution.*

1st Digit Main Categories of Occupation	
0) 1)	Professional, technical and managerial ore.
2	Clerical and sales ore.
3	Service ore.
4	Farming, fishing, forestry, & related ore.
5	Processing ore.
6	Machine trader ore.
7	Bench work ore.
8	Structural work ore.
9	Misc. ore.

4th Digit Data	
0	Synthesizing
1	Coordinating
2	Analyzing
3	Compiling
4	Computing
5	Copying
6	Comparing
7) 8)	No sign. rel.

5th Digit People	
0	Monitoring
1	Negotiating
2	Industries
3	Supervising
4	Diverting
5	Persuading
6	Speaking-Signaling
7	Serving
8	No sign. rel.

6th Digit Things	
0	Setting-up
1	Precision working
2	Operating-controlling
3	Driving-operating
4	Manipulating
5	Tending
6	Feeding-off bearing
7	Handling
8	No sign. rel.

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* Dictionary of Occupational Titles, Bureau of Employment Security. Manpower Administration, U. S. Dept. of Labor, Vol. 1, 1965.

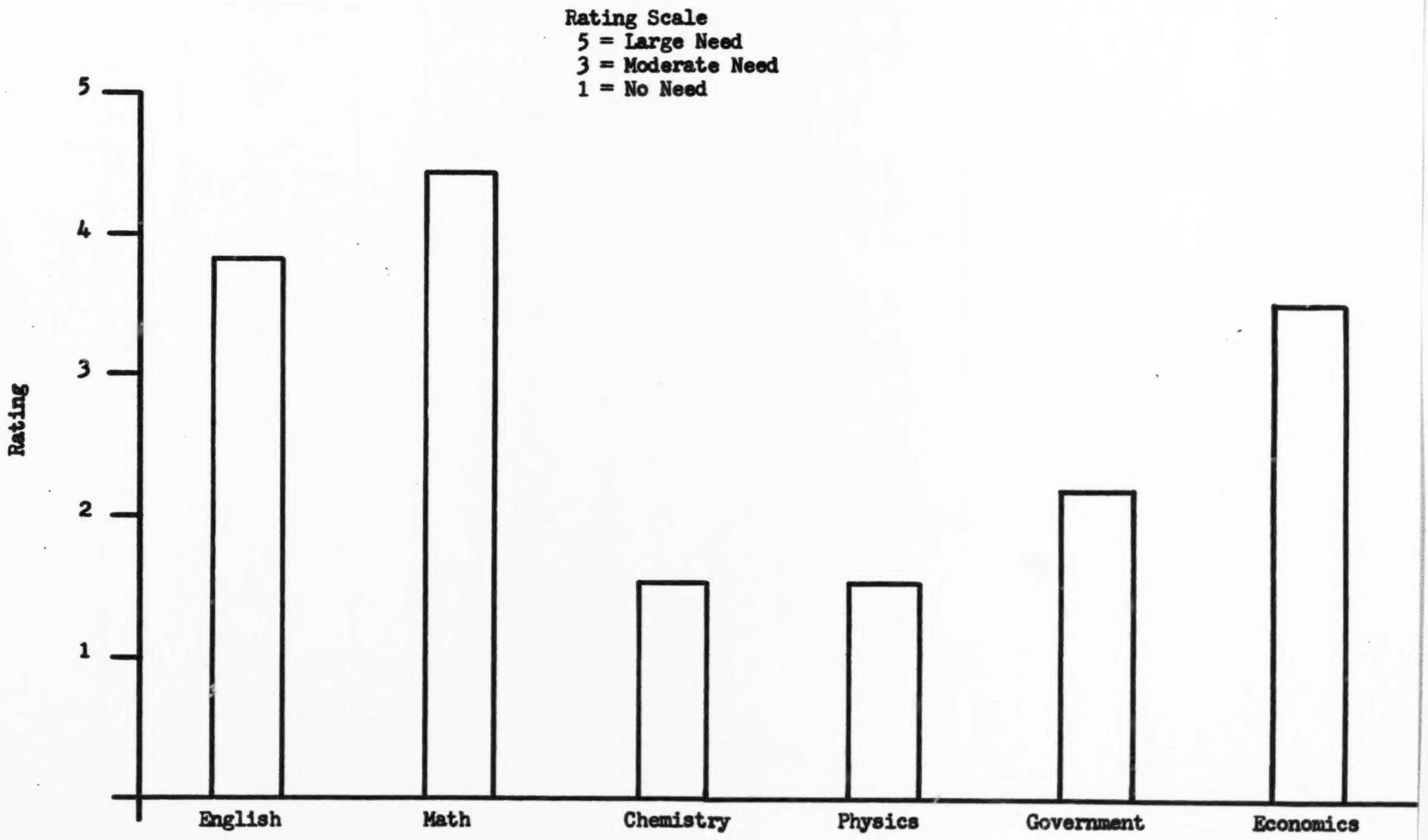


Figure 6: Total weighted average rating for the need of fundamental courses in vocational food handling and distribution curricula.

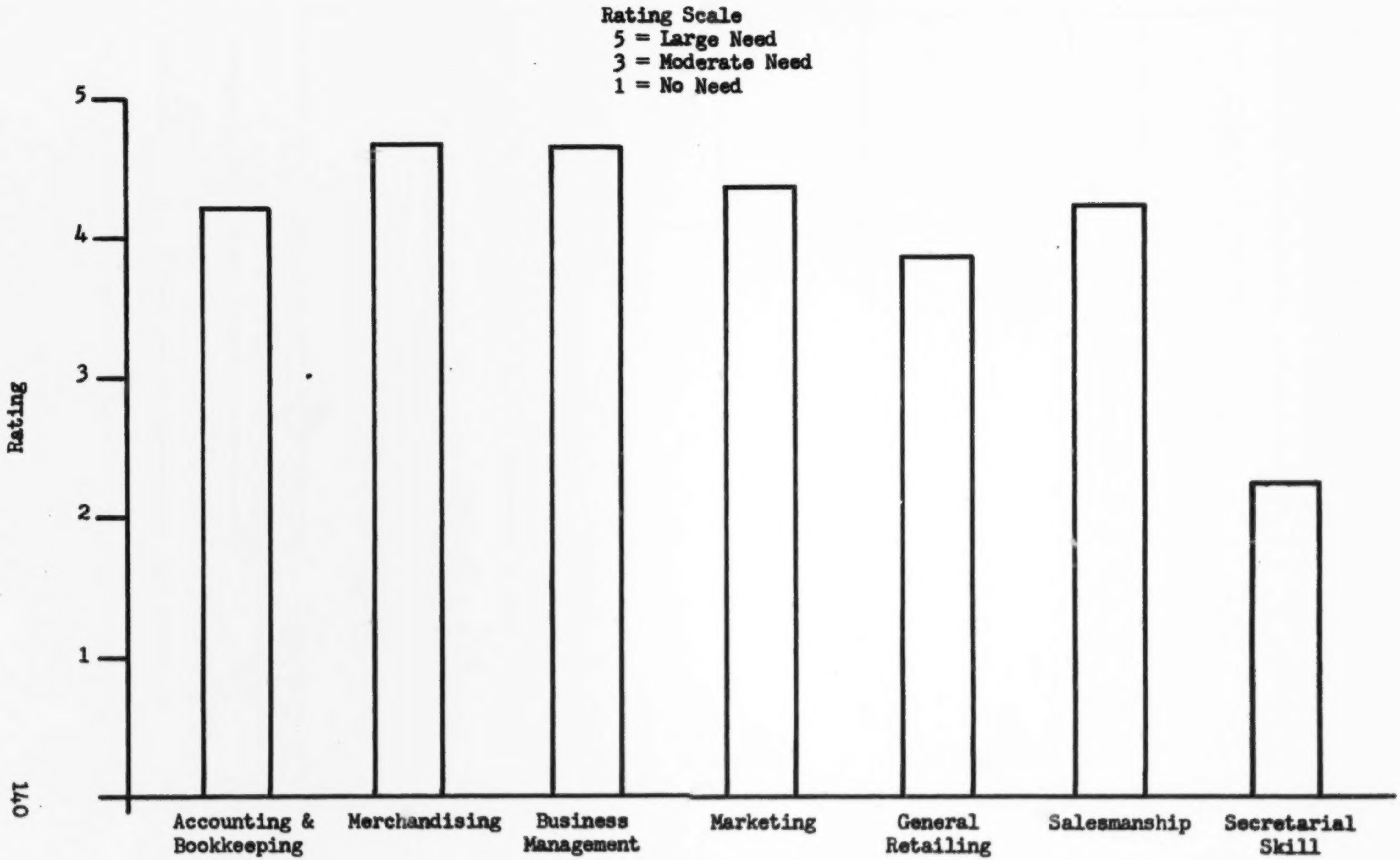


Figure 7: Total weighted average rating for the need of business courses in vocational food handling and distribution curricula.

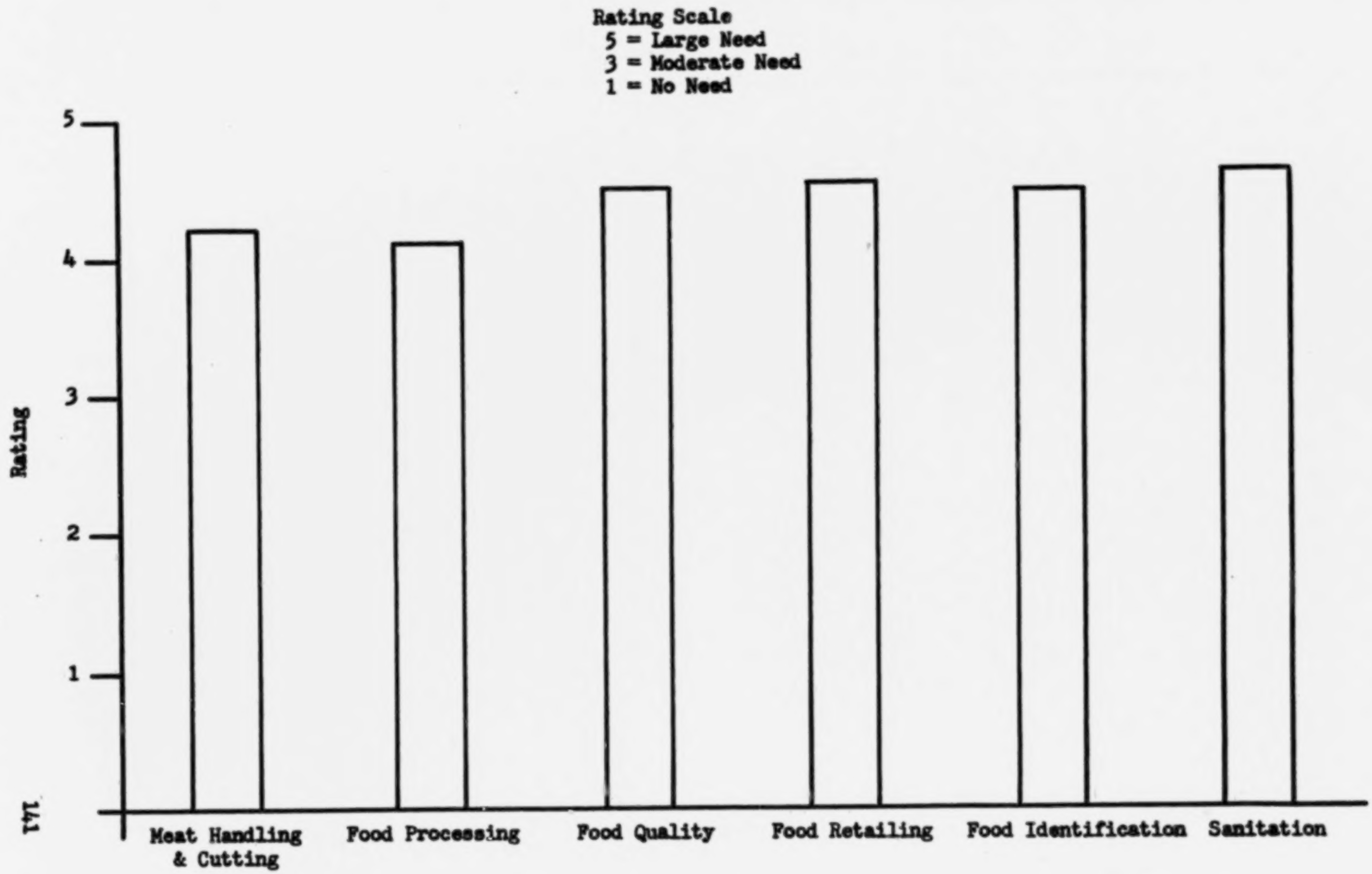


Figure 8: Total weighted average rating for the need of food courses in vocational food handling and distribution curricula.

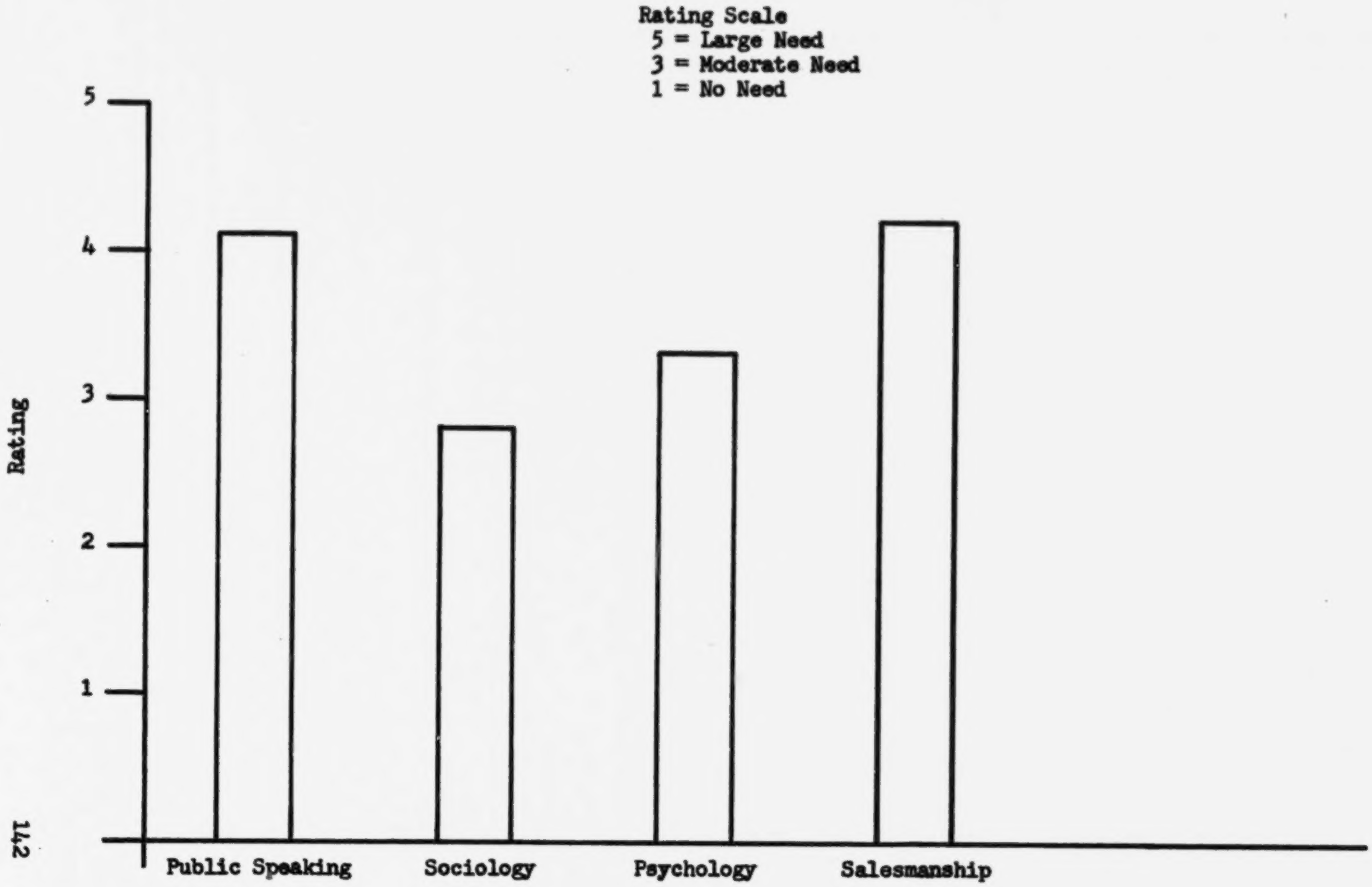


Figure 9: Total weighted average rating for the need of social courses in vocational food handling and distribution curricula.

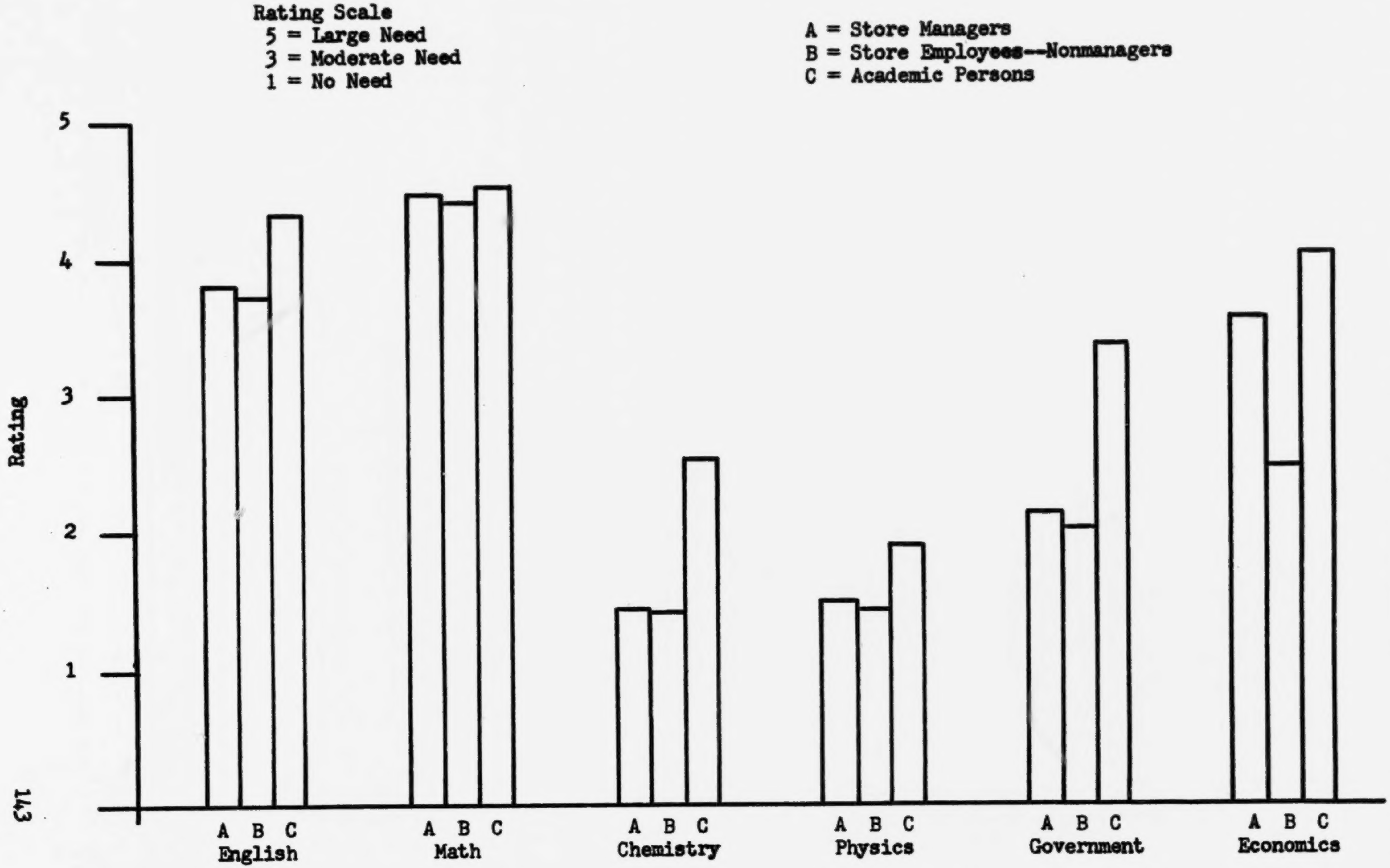


Figure 10: Ratings of fundamental courses needed in food distribution curricula.

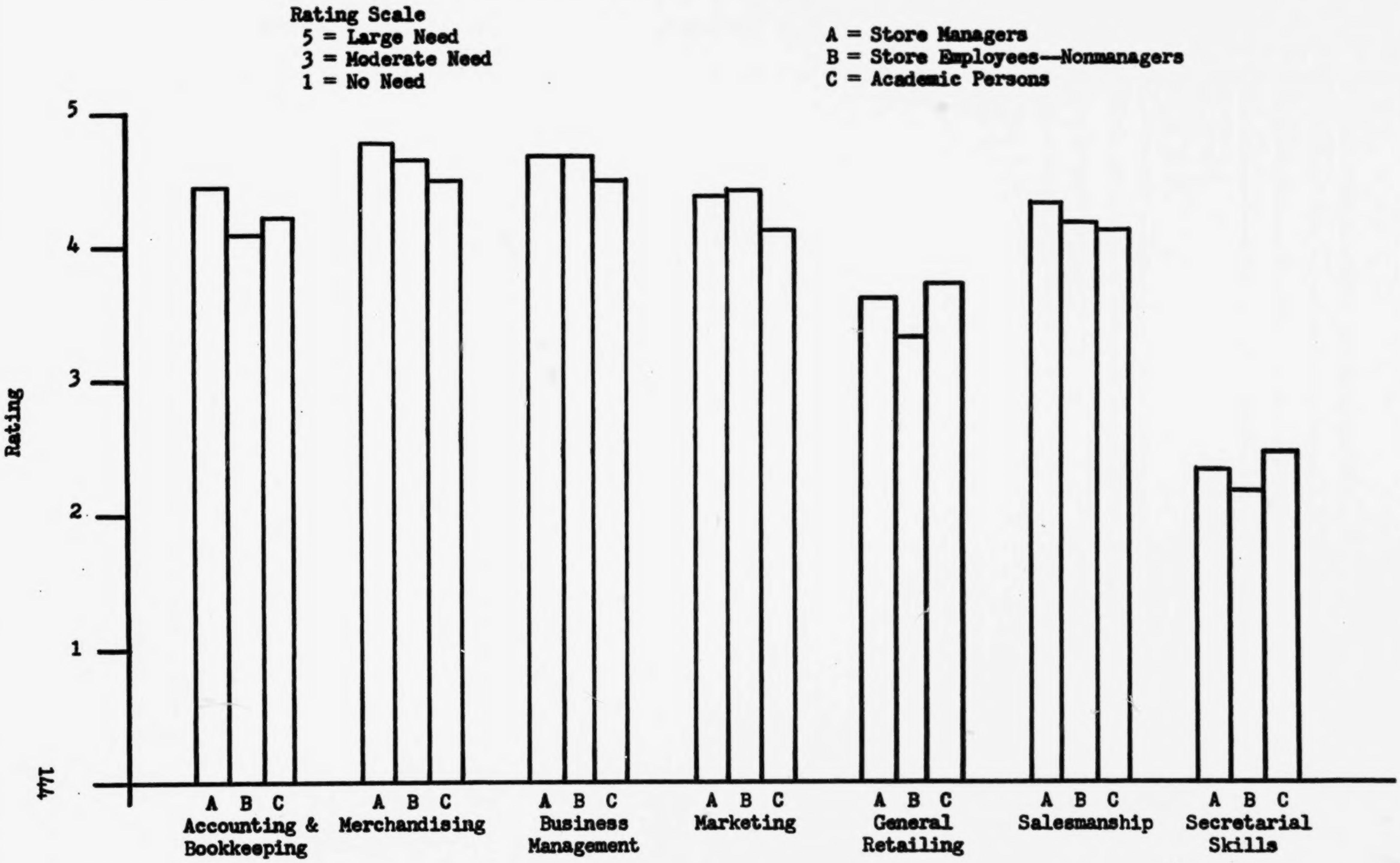


Figure 11: Ratings of Business courses for food distribution curricula.

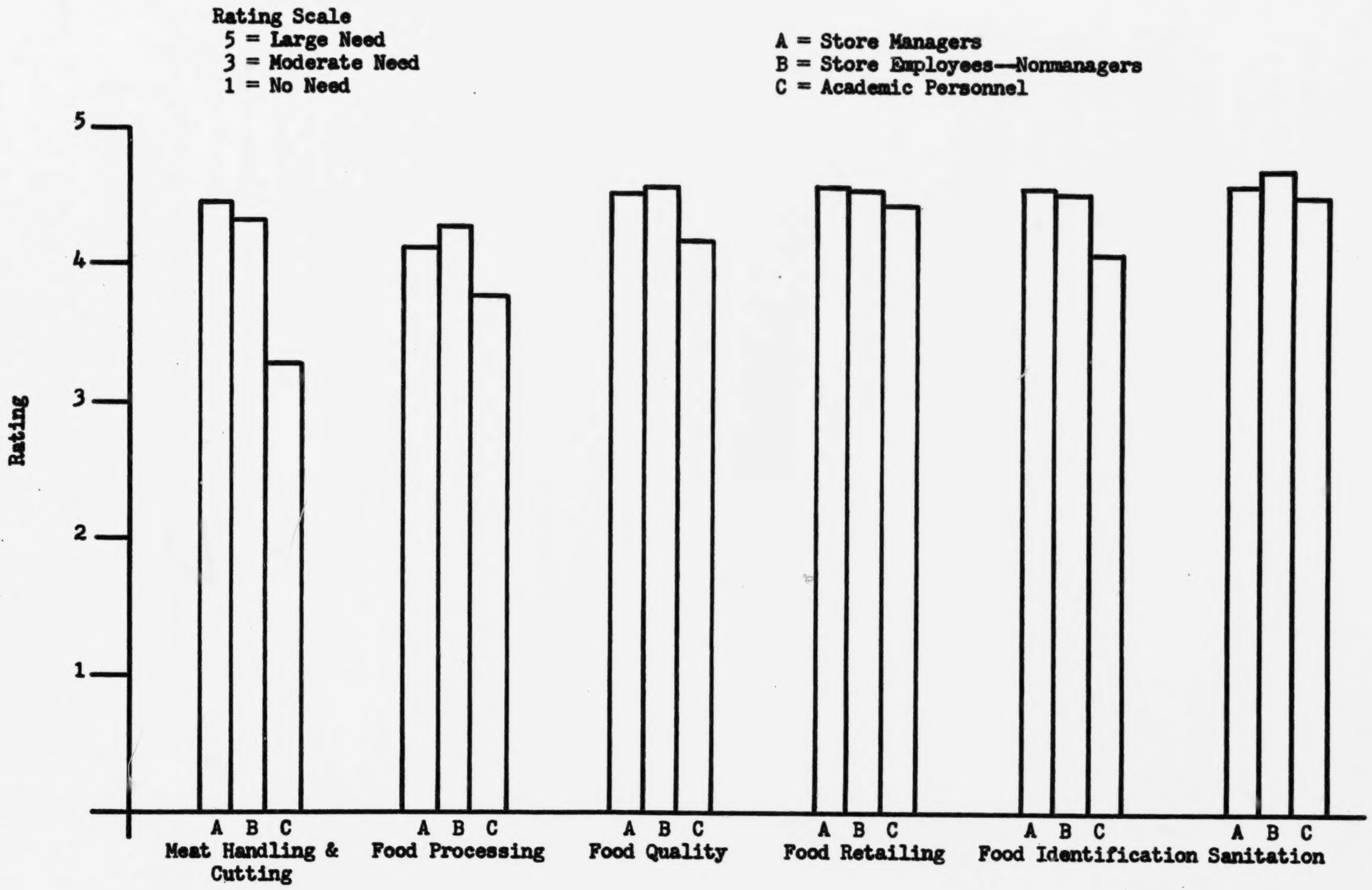


Figure 12: Rating of food courses needed for food distribution curricula.

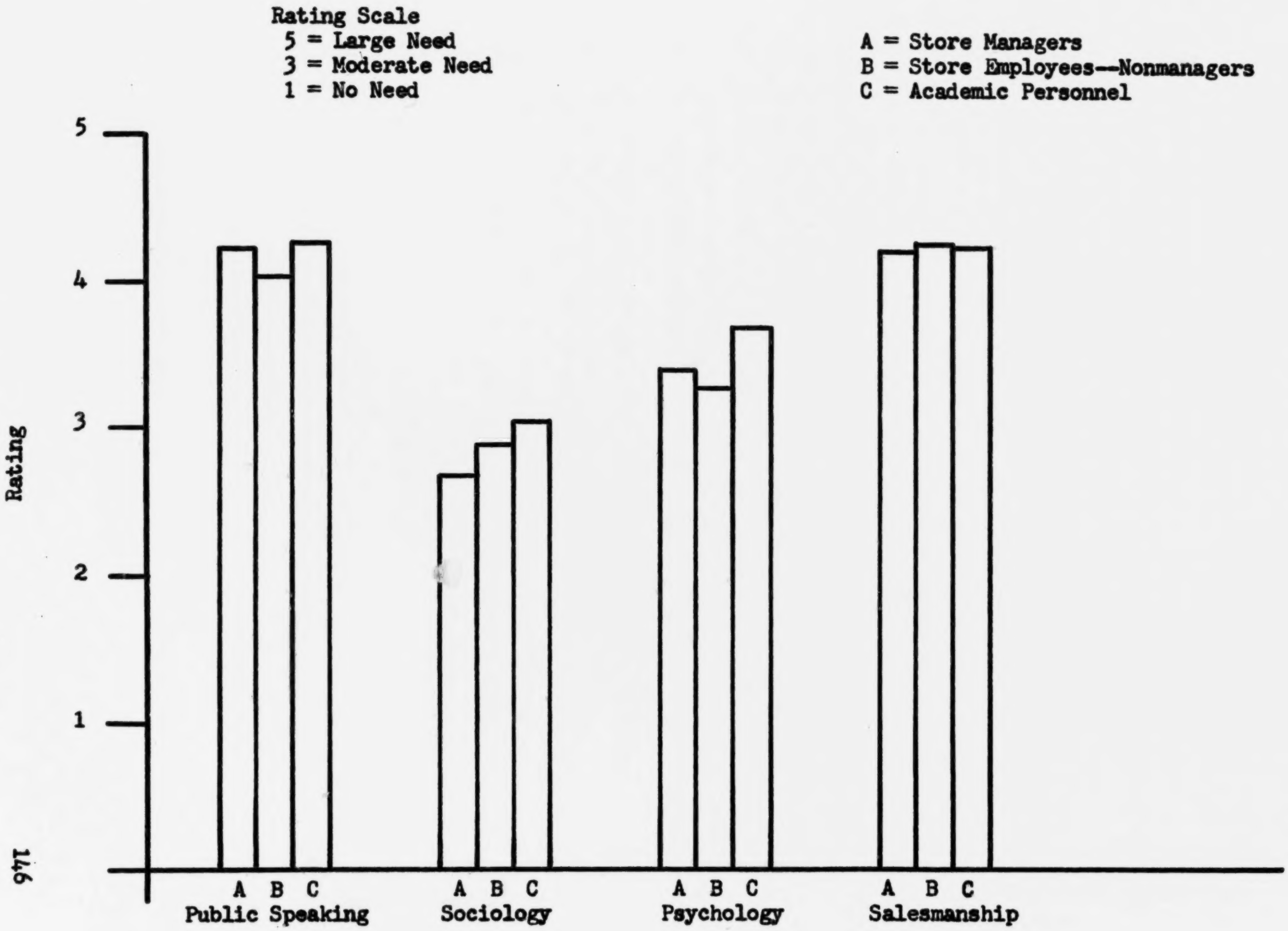
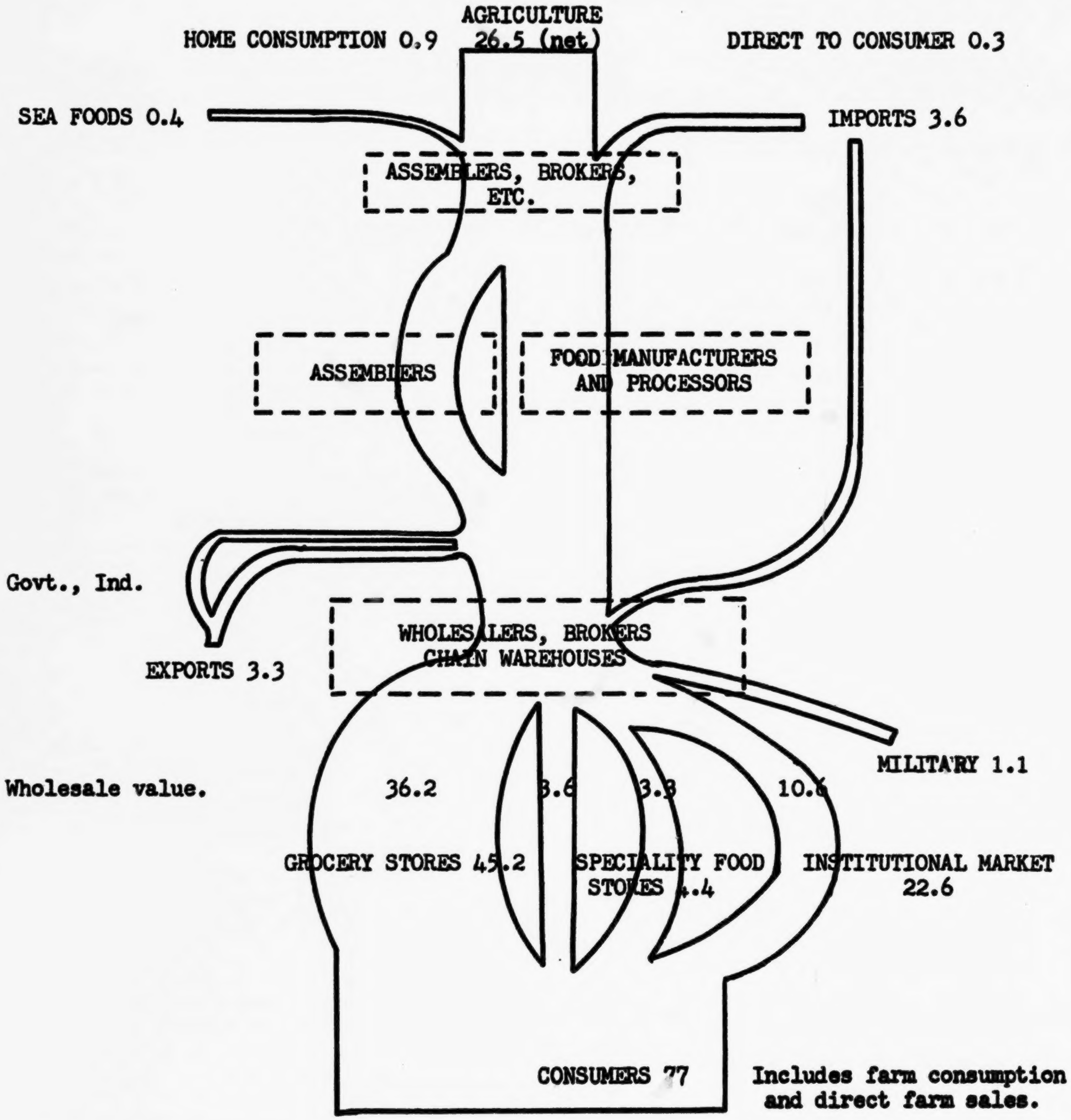


Figure 13: Ratings of social courses needed for food distribution curricula.

Figure 14: FLOW OF FOOD FROM SOURCES TO DESTINATION, 1963
(Figures in billion dollars)


AGRICULTURE
26.5 (net)
HOME CONSUMPTION 0.9
DIRECT TO CONSUMER 0.3
SEA FOODS 0.4
IMPORTS 3.6
ASSEMBLERS, BROKERS, ETC.
ASSEMBLERS
FOOD MANUFACTURERS AND PROCESSORS
Govt., Ind.
EXPORTS 3.3
WHOLESALERS, BROKERS CHAIN WAREHOUSES
MILITARY 1.1
Wholesale value.
36.2
3.6
3.3
10.6
GROCERY STORES 45.2
SPECIALITY FOOD STORES 4.4
INSTITUTIONAL MARKET 22.6
CONSUMERS 77
Includes farm consumption and direct farm sales.

(Contributions of industries supplying transportation, equipment containers, energy, etc., not shown separately.)

SOURCE: Food From Farmer to Consumer, Report to the National Commission on Food Marketing, Washington, D. C., 1966.

GLASTONBURY HIGH SCHOOL
VOCATIONAL AGRICULTURE DEPARTMENT
GLASTONBURY, CONNECTICUT

FOOD HANDLING AND DISTRIBUTION

1966 - 67
Course Outline (One Year)

Orientation to Food Handling and Distribution
- Job Opportunities and trends
- Employee duties and relationships

Personality Development
- Make-up of proper personality
- Developing your sales personality

Selling Mediums and Sales Techniques
- Selling mediums and appeals
- Role of the salesperson
- Determining customer's wants and practices

Steps in Retail Selling
- Preapproach, approach, and close
- Legal implications and involvement

Food Nutrients

Retail and Wholesale Operations
- Plant and store cleanliness
- Stock organization and display
- Labeling and identification
- Pricing and inventory control

Quality Evaluation of Food Products

Handling Fruits and Vegetables
- Kinds, varieties and grades
- Receiving and storage
- Unpacking, repacking, display

Poultry and Poultry Products
- Identification and grades
- Grading, packing, storing
- Quality control
- Preservation methods

Milk and Milk Products
- Grades and standards
- Receiving and storage
- Quality control
- Preservation methods

Meat and Meat Products
- Carcass identification and grades
- Wholesale and retail meat cuts
- Meat storage and aging
- Preservation methods

Handling Fruits and Vegetables
- Kinds, varieties and grades
- Receiving and storage
- Inventory and stock control

Horticultural Products
- Identification, handling and displaying:
  - Cut flowers
  - Potted plants
  - Nursery products
  - Grass seed and garden supplies

Meat Distribution
- Receiving, marking, inventory control
- Consumer information
- Display and advertising
- Seasonal factors with meat

Canned and Frozen Foods
- Labels and standards
- Storage and display

Consumer Protection

EDWARD BOK TECHNICAL HIGH SCHOOL
PHILADELPHIA, PENNSYLVANIA

ONE HALF DAY IS SPENT IN JOB TRAINING
ONE HALF DAY IS SPENT IN ACADEMIC STUDIES

10th Year	Periods Per Week
Shop	20
English	5
American History and Government	5
Mathematics (Algebra, Shop Math, General Math)	5
Physical Education	2
Health Education	1
Minor Subjects	2

11th Year	Periods Per Week
Shop	20
English	5
Science (Physics or Biology)	5
Mathematics (Geometry, Shop Math, General Math)	5
Physical Education	2
Health Education	1
Minor Subjects	2

12th Year	Periods Per Week
Shop	20
English	5
American History and Government	5
Science (Chemistry or Physical Science)	5
Physical Education	2
Health Education	1
Minor Subjects	2

MURRELL DOBBINS TECHNICAL HIGH SCHOOL
PHILADELPHIA, PENNSYLVANIA

ONE YEAR COOPERATIVE PROGRAM IN FOOD MERCHANDISING & TECHNOLOGY

First Semester	hours/week
Business English Vocabularly, grammar, oral and written communication	3
Business Math. Basic functions, interest, percentage, discounts, store arithmetic	3
Supermarket Products Fruit & produce, dairy, meat, sea food, frozen foods (films, speakers, field trips)	6
Economics Principles of distribution, business law, consumption, company of the week	3
Research Methods & Projects	4
Current Events	1½
Display	1½
Store Management	3
Total School Hours/Week	25

On-the-job training 15 to 30 hrs./week.

Second Semester	hours/week
Business English (continuation from first semester)	3
Store Accounting Daily time sheets, daily register, weekly toll sheet, basic principles of accounting and business math	3
Supermarket Products Processed foods, household maintenance supplies, tobacco, beverages, bakery items, health and beauty aids, confections, games, toys, garden supplies (films, speakers, field trips)	6
Research Techniques and Assignments	4
Merchandising Organization, personnel, salesmanship, record keeping, display, advertising, buying, etc.	3
Current Events Supermarketing and world events	1½
Display	1½
Management Warehousing, receiving, stocking, store housekeeping, conference leadership	3
Total School Hours/Week	25

On-the-job training 15 to 30 hrs./week.

RATCLIFFE HICKS SCHOOL OF AGRICULTURE
UNIVERSITY OF CONNECTICUT, STORRS, CONNECTICUT
(Post High School)
FOOD HANDLING AND DISTRIBUTION CURRICULUM

First Semester	Credits
*Orientation	0
Dairy and Food Technology	3
Plant and Store Sanitation	3
Introduction to the Food Industry	2
*Oral and Written Expression	3
Physical Education	0
Fruit and Vegetable Marketing Practices	3
Food Packaging	3
	17

Second Semester	Credits
Refrigeration	2
Meat and Meat Products	3
*Physical Education	0
*Government and Agricultural Law	3
Marketing Eggs	2
Frozen Foods	2
Public Speaking	2
Elective	3
Introduction to Animal Science	
Introduction to Plant Science	
	17

Third Semester	Credits
Agriculture Business Management	3
Quality Evaluation of Food Products	3
Meat Grading and Evaluation	2
Post Harvest Physiology of Horticultural Crops	3
Food Processing	3
Elective	3
Floriculture and Nursery Marketing Practices	
Marketing Poultry	
	17

Fourth Semester	Credits
Seminar in Food Handling and Distribution	1
Marketing Agriculture Products	3
Agriculture Sales and Service	3
Food Handling Personnel Problems	2
Meat Wholesaling and Retailing	3
Nutritive Values of Foods and Consumer Practices	3
Elective	3
Introduction to Animal Science	
Scoring Dairy Products	
Introduction to Plant Science	
	18

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* Course required for all students.

FT. DODGE COMMUNITY COLLEGE
FT. DODGE, IOWA
(Post High School)
FOOD MARKETING MANAGEMENT CURRICULUM

Freshmen Year

First Semester	Credits	Second Semester	Credits
Introduction to Food Marketing	3	Retailing	3
Introduction to Business	3	Human Relations	3
Salesmanship	3	Principles of Marketing	3
Field Experience	4	Communicative Skills	4
		Elective	3
		Summer	
		Field Experience	4

Sophomore Year

First Semester	Credits	Second Semester	Credits
Communicative Skills	4	Management Accounting	3
Public Speaking	3	Sales Promotion	3
Marketing Management	3	Business Management	3
Principles of Accounting	3	Seminar in Food Marketing	2
Retail Merchandising	3	Elective	3
		Summer**	
		Field Experience	

**Permanent placement for those accepting full-time positions in food marketing. Required for graduation for those wanting degree but not accepting full-time placement in food marketing.

AGRICULTURAL AND TECHNICAL COLLEGE AT MORRISVILLE,
STATE UNIVERSITY OF NEW YORK, MORRISVILLE, NEW YORK
(Post High School)
FOOD PROCESSING TECHNOLOGY PROGRAM

First Year

First Semester	Credits	Second Semester	Credits
Language and Composition	3	Critical Reading and Composition	3
General Chemistry	4	General Chemistry	4
Microbiology	3	Microbiology	3
Food Preservation	4	Food Plant Layout and Construction	4
Mathematics (as advised)	3	Mathematics (as advised)	3
	17		17

Second Year

First Semester	Credits	Second Semester	Credits
Introduction to the Social Sciences	3	Problems in American Government	3
Physical Education	1	Physical Education	1
Personnel Administration	3	Grading and Judging Products	2
Food Preservation	3	Food Plant Sanitation	3
Electives	6	Food Preservation or Biochemistry	3-4
	16	Electives	5
			17-18

Suggested Electives for Senior Year

First Semester		Second Semester	
General Zoology	4	General Zoology or	4
Organic Chemistry	4	Organic Chemistry	4
Quantitative Analysis	4	Mathematics	3
Mathematics	3	Biochemistry	3
Packaging	3	Business Organization	3
Quality Control	3	Quality Control	3
Equipment	2	Sociology	3
Public Speaking	2	Economics	3
Asian Studies	3	Public Speaking	2
Economics	3	English Literature II	3
English Literature I	3	American Literature II	3
American Literature	3	Introduction to Literature	2
Pilot Plant Supervision	1	Pilot Plant Supervision	1

MT. SAN ANTONIO COLLEGE
WALNUT, CALIFORNIA
(Post High School)

Required Courses in Supermarket Operations Management (14 units)

Introduction to Supermarket Operation	2 Units
Store Organization and Management	3 Units
Economics of Food Distribution	3 Units
Meat and Produce Operations for the Store Manager	3 Units
Supermarket Department Operations	3 Units
	14 Units

Required Elective Courses (9 units)

Small Business Management
Introduction to the American Economy
Business Mathematics
Accounting
Human Relations in Business
Communication for Supervisors, Oral
Communication for Supervisors, Written
Labor-Management Relations
Business Law
Principles of Marketing
Introduction to Business

FOOD BUSINESS INSTITUTE
UNIVERSITY OF DELAWARE
NEWARK, DELAWARE
(Post High School)
ASSOCIATE DEGREE CURRICULUM

Major: Food Business

Fall (Odd Year)	Credits
English Essentials	3
Introductory Marketing	3
Mathematics	3
Practical Economics	3
Elective	3
Physical Education	1
	16

Spring (Even Year	Credits
Business Management	3
Merchandising	3
Marketing Perishable Foods	3
Written and Spoken English	3
Institutional Marketing	3
Physical Education	1
	16

Fall (Even Year)	Credits
Communications	3
Records and Accounts	3
Salesmanship	3
Wholesale Distribution	3
Food Chemistry	3
Elective	3
	18

Spring (Odd Year)	Credits
Food Retailing	3
Human Relations	3
Food Marketing Facilities	1
Food Conference	0
Materials Handling	3
Elementary Agricultural Economics	3
Speech	3
	16

STOCKBRIDGE SCHOOL OF AGRICULTURE
UNIVERSITY OF MASSACHUSETTS, AMHERST, MASSACHUSETTS
(Post High School)
FOOD DISTRIBUTION

Two-Year Course of Study

First Year

First Semester	Credits
Economics (Accounting Principles)	4
Economics (Principles of Economics)	3
Bacteriology (Bacteriology and Rural Hygiene)	3
English (Report Writing)	3
Physical Education	-
Psychology (Applied General Psychology)	3

Second Semester	Credits
Economics (World's Food Supply)	2
Economics (Accounting Principles)	4
Economics (Marketing Management and Salesmanship)	3
English (English Composition)	2
Physical Education	-
Speech	2

Second Year

First Semester	Credits
Economics (Business Management)	3
Economics (Food Merchandising)	3
Economics (Marketing Economics)	3
Food Products (Dairy and Poultry Products)	3
Mathematics (Elementary College Algebra)	3
Restaurant and Hotel Management Personnel Management)	3

Second Semester	Credits
Economics (Food Distribution Problems)	2
Economics (Food Store Management)	3
Animal Science (Meats and Meat Products)	3
Food Science and Technology (Fundamentals of Food Preservation)	3
Elective	
Food Packaging	
Produce Merchandising	

ST. JOSEPH'S COLLEGE
PHILADELPHIA, PENNSYLVANIA
(Post High School)

CERTIFICATE IN FOOD MARKETING

Liberal Arts Requirements

Subject	Credits 1st Sem.	Credits 2nd Sem.
Introduction to Economics	3	3
Freshman English (or Business English, Speech)	3	3
General Ethics, Individual and Social Ethics	3	3
Food Marketing Requirements— Lower Division		
Development and Characteristics of Food Marketing	2	-
Food and Nutrition	-	2
Operations	2	-
Supervisory Development	-	2
Marketing Information	2	-
Marketing Research	-	2
Food Processing	2	-
Product Development	-	2
Food Marketing Requirements— Upper Division		
Management Fundamentals	-	2
Merchandising I, II, III	4	2
Procurement	2	-
Physical Distribution	-	2
Food Marketing Analysis	2	-
Food Marketing Laws & Regulations	-	2
Total		50

NEW YORK STATE COLLEGE OF AGRICULTURE
CORNELL UNIVERSITY
ITHACA, NEW YORK
1966
(Post High School)
TYPICAL ADULT SPECIAL PROGRAM

First Semester

Food Distribution
Seminar in Food Distribution
Food Merchandising & Promotion
Personnel Administration
Oral and Written Expression
Business Management
Survey of Industrial and Labor Relations

Second Semester

Food Industry Management
Seminar in Food Industry Management
Field Study of Food Industries
Design & Administration of Training Programs
Economics of Managerial Decisions
Communications and Public Relations